River Crossings

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The Floods of 1994??

National Weather Service (NWS) meteorologists are more upbeat than they were a few months ago about the prospects of another midwest flood this summer. According to Frank Richards, NWS hydrometeorologist, reasons for optimism that a second flood will not occur include the facts that 1) the Missouri River is flowing at normal levels, 2) the Mississippi River is below normal in St. Louis, 3) soil measurements indicate that the ground is drying, 4) and the 90-day weather outlook for the region calls for less-than-normal precipitation.

Changes in soil moisture and river levels occurred because precipitation in the upper Missouri and Mississippi river basins was less than normal at the end of 1993. The prospects for flooding now hinge on winter snow pack and spring rains. Everything depends on timing, if snow melt and spring rains coincide, "...they're in trouble", Richards said.

The threat of a 1994 flood caused government officials to act fast last fall to provide funding for emergency repairs to all federal levees. We understand these repairs are now complete, awaiting only the phase two "dressing up procedure", scheduled for this spring. In the meantime, according to a January 12th article in the Kansas City Star, Senator Kit Bond, Missouri, is leading an effort to get federal funding to repair all of the nonfederal levees (mainly along the Missouri River) which would otherwise be ineligible for government support.

According to the Star article, there are 482 nonfederal levees that Bond says need repairs. The Clinton Administration opposed full-scale repairs of nonfederal levees. But after considerable wrangling with Bond and Representative Pat Danner of Missouri, the Administration authorized $18 million for nonfederal levee repairs.

In late January, after the Los Angeles earthquake, moves were reportedly afoot to fund repair of these levees as part of an earthquake supplemental appropriations bill. Missouri Governor Carnahan, reportedly, also paid a visit to Washington in late January seeking funding for repair of some 160 nonfederal levees, recommended for repair by an interagency state task

INSIDE THIS ISSUE

force. Cost of these recommended repairs were estimated at $53 million.

Source: "Flood Threat Diminishing in Midwest" by James Kuhnhenn, Kansas City Star, January 12, 1994.

White House Interagency Floodplain Management Review Committee Established

The Clinton Administration has established an Interagency Floodplain Management Review Committee (Committee) to evaluate the consequences of the 1993 floods. The Committee, operating under direction of the Interagency Floodplain Management Task Force (established earlier to handle disaster relief and other immediate post-flood responses), will:

- undertake an intensive review to determine the major causes and consequences of the 1993 flood;
- evaluate the performance of existing floodplain management and related watershed management programs; and
- make recommendations as to what changes in current policies, programs, and activities would most effectively achieve risk reduction, economic efficiency, and environmental enhancement in the floodplain and related watersheds.

As appropriate, the Committee is expected to identify legislative initiatives that might be needed. A draft report is scheduled for May 1, 1994, with a final report due by June.

Because floodplain management involves a complex intergovernmental system of Federal, State, tribal, and local responsibilities; the Committee will conduct outreach to, and consultation with, all levels of government and the public. Its operations will be conducted in an open environment.

The Committee includes a multi-disciplinary, interagency group of experts in fields relevant to floodplain management. Assistance is being provided by the staff of the Council of Economic Advisors, the Office of Science and Technology Policy, and the Justice Department. An element of the Committee, the Scientific Assessment and Strategy Team (SAST), headquartered in Sioux Falls, South Dakota at the U.S. Geological Survey EROS Data Center, is gathering and analyzing data related to the flood and its impacts.

The Committee, based in Washington, D.C., is headed by Brigadier General Gerald E. Galloway, formerly of the Corps of Engineers and presently serving as Academic Dean of the U.S. Military Academy at West Point. Other Committee members have been drawn from locations throughout the affected area as well as from Washington, D.C. Jerry Rasmussen, MICRA Coordinator/Executive Secretary and Fish and Wildlife Service biologist is one of thirteen Committee members serving on a temporary assignment with the Washington-based group.

For additional information on the Committee contact: BG Gerald E. Galloway, Interagency Floodplain Management Review Committee, 730 Jackson Place NW, Washington, D.C. 20503, (703) 395-3377.

River Crossings

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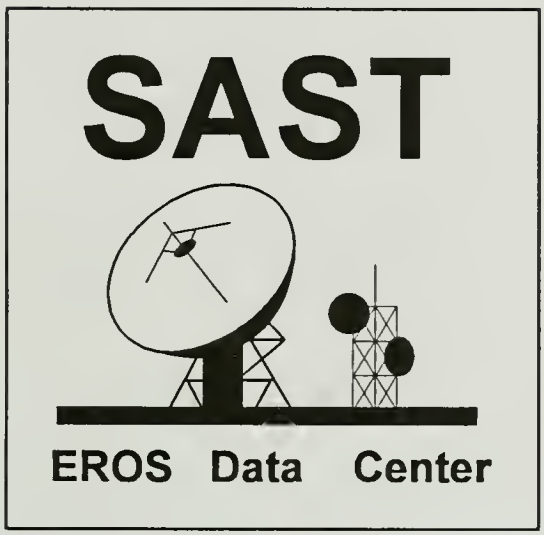
Wetland Restoration Workshop Held in St. Louis

A state/federal technical workshop, entitled, "Identifying Potential Post Flood Floodplain/Wetland Restoration Sites For The Mississippi Basin (including the Missouri and Other Tributaries)", was held at the Sheraton Westport Inn, St. Louis, MO on January 13-14, 1994. The Workshop was hosted by John Kuslar of the Association of State Floodplain Managers.

Bill Dieffenbach and Gordon Farabee showed the group slides of 64 scour holes, created along the Missouri River as a result of the flood. These scour holes vary in size from a few acres up to 100 or more acres, range in depths up to 65 feet, and remain hydrologically connected to the River. Dieffenbach said this was just "the tip of the iceberg" in relation to the larger number of scour holes in the floodplain which do not remain hydrologically connected to the River. He said, as a minimum, these scour holes should be acquired by government agencies, or otherwise protected from destruction.

Many options for wetland restoration were discussed by workshop attendees. The following points were made regarding highest priority actions needed immediately:

1) Establish a clearing house of information on funding sources so that red tape can be cut, and money can be merged and used efficiently.
2) Appoint a flood Czar to integrate and defragment government operations.
3) Increase funding for the Wetland Reserve Program (WRP), Emergency Wetland Reserve Program (EWRP), Fish and Wildlife Service acquisition programs, etc. so wetlands can be preserved before opportunities are lost (prairie wetlands should not be overlooked).
4) Establish tax breaks for land owners involved in wetland/ floodplain restoration projects.
5) Improve coordination of projects and monies (private and federal), and establish a federal lead for acquisitions and prioritization; highest priority should be placed on lands where levee restoration is not needed, and where large land units can be acquired.
6) Formalize the "letter of intent" process to more readily involve Non-Governmental Organizations.
7) Encourage States' gubernatorial/ Congressional support to ensure that the Science Assessment and Strategy Team (SAST), located in Sioux Falls continues beyond current time limitations involving both USGS and Corps of Engineers.



8) The SAST needs to succeed in demonstrating that science can be understandable/useable, and thus involved in education and decision/policy making at all levels of government.
9) Ensure that SAST activity is tied to ecosystem management concepts to develop a better understanding of how the river system works, evaluate flood control structures (what worked and what didn't), incorporate biological as well as physical elements at the highest resolution possible; and ultimately improve science to improve policy so that it reflects science.
10) Ensure that SAST data is translatable between levels of geographic coverage and scale.
11) Focus funding on the Missouri River, and encourage the Corps to cooperate with SAST.
12) Institutionalize the Corps' 1135 Program so that cost sharing partners can be easily found.
13) Make a clear distinction between floodplain acquisition and wetland restoration.
14) Establish a centralized regulatory authority.
15) Conduct studies to evaluate blue holes and look at their succession so that management recommendations can be made to the Corps on how regulatory works can be modified to retain them.
16) Change Upper Mississippi River Environmental Management Program (EMP) policies so land acquisitions can be funded with EMP money.
17) Change ag policy so that lands do not have to be cropped in last 5 years to go into WRP program.
18) Focus FEMA efforts on avoidance of disaster payments.
19) Develop a Great Flood Recovery document to track actions, progress, etc. to keep coordination and momentum going.
20) Conduct a unified effort to specifically brief Congress and the public so data won't be misused/ abused and everyone understands its potential inaccuracies.
21) Conduct a comprehensive inventory and risk analysis of mainstem and tributary levees.
22) Take actions to hold water where it falls on the watersheds.
23) Develop a series of wetland restoration (water) projects for inclusion in Water Bills which will most likely be forthcoming in the current legislative session.
24) Look at restoration efforts from the perspective of "what is needed/ wanted" rather than just from the perspective of "what is available" for buyout.

Survey of Floodplain Farmers and Levees

The Midwest Area River Coalition 2000 (MARC 2000); a group of agribusinesses, agricultural shippers, producers, carriers, and other interests; completed a survey in November entitled, "Flood of 1993 Survey of Levee Repair & Options". While the report admits it was not scientifically conducted, farmer opinions on various issues flood related issues are presented.

The survey was conducted in cooperation with the National Corn Growers, USDA Soil Conservation Service, Missouri Corn Growers, and Illinois Farm Bureau.

Some 165 farmers, mostly located in Missouri and Illinois, along either the Missouri or Mississippi rivers were included in the survey. The average respondent was "a Missouri farmer, located along the Missouri River, on 1,166 acres, who expects to farm 99 out of 658 acres of bottomland this year."

According to the report:

- almost all the respondents produce corn and soybeans with 65 percent producing corn, soybeans, and wheat;
- although farmers still seek federal assistance to rebuild levees, about 85 percent of respondents indicated they would rebuild even if federal funds are not forthcoming;
- almost 82 percent of respondents would not sell land into wetlands (as programs are now defined);
- over 62 percent of respondents would not move their levees back in exchange for federal assistance; and
-over 80 percent of respondents opposed accepting a federal easement allowing their land to be flooded while continuing to farm in alternate years.

An interesting survey result, however, was that 65 percent of farmers with over 700 acres protected by private levees were willing to move their levee back in exchange for assistance, while only 15 percent of private levee farmers with less than 700 acres were willing to move their levees back. Also 52 percent of farmers along the Missouri River said they would consider moving their levees back, compared to only 13 percent along the Mississippi.

The report speculated that the reluctance of smaller farmers to move levees back was related to the fact that doing so would take too large a portion of their farm out of production. Also, farmers along the Mississippi, many with public levees, aren't necessarily interested in the same thing as farmers along the Missouri, most of which have private levees.

The survey concludes that "any future floodplain plan, must take into account the variety of opinions and needs of farmers."

For more information contact: Jim Wilson or Chris Brescia, MARC 2000, 200 N. Broadway, Suite 1725, St. Louis, MO 63102, (314) 436-7303.

Floodplain Management in Canada

Canada began restricting development in floodplains 20 years ago, and evidence suggests that the policy has greatly reduced the amount of flood damages there.

Canada's Flood Damage Reduction Program is not meant to stop all use of the floodplain but to encourage practical uses, such as greenbelts, parks and agriculture, that are not apt to be completely devastated if the area is flooded. When Canadian rivers overflow into their floodplains, they often swamp campsites, golf courses, roads and farmlands but cause little or no permanent damages.

For more information on Canadian floodplain policy and scientific studies of its impact contact: Water Planning and Management Branch, Inland

Waters Directorate, Environment Canada, Ottawa, Ontario, K1A OH3.

Source: The Missouri River Report, The Official Publication of the Missouri River Basin Association, P.O. Box 9193, Missoula, MT 59807.

Nuclear Power Plant Near Omaha Threatened by the Flood of 1993 - A Follow-Up

The article, of this title, which ran in the last issue of *River Crossings*, not surprisingly, generated a response from the Nebraska Public Power District (NPPD), owners and operators of the plant.

NPPD informed us that there were inaccuracies in our story which they wanted to clear up. Our story was based on information provided by Dr. Jack F. Shroder, Jr., Professor and Chairman of the Department of Geography and Geology at the University of Nebraska at Omaha.

In their letter to *River Crossings* NPPD provided the following information:

"The facts are that the threat of flooding was well reported in the media and that the Missouri River

water was never higher than approximately two feet of overtopping the Station levee. The plant was not abandoned, though not generating electricity; and, in fact, had two full crews on site at all times–further our station procedures and technical specifications require prompt action, such as reactor shutdown, to be taken to preclude adverse consequences from flooding conditions (despite the statement attributed to Dr. Shroder that the plant could not be shut down on such short notice). Cooper Station has been afforded a very high level of protection from Missouri River flooding and the plant was never in jeopardy and was never threatened. You also might be interested to know that an upstream levee was breached by river water–not by workers--which did relieve some pressure on downstream flooding."

Conflicts in viewpoint as to what did or did not happen as a result of the 1993 flood were not peculiar to this incident. The effects of levees on flood heights, and the "myth" or "fact" that levees cause or prevent flooding continues to be debated in the aftermath of the flood.

If the Cooper Nuclear Power Plant was in any jeopardy, as suggested by Dr. Shroder, we as a society need to help NPPD upgrade its level of protection, and perhaps, be more realistic about the level of protection afforded ag lands. Future floods will certainly come, and in that event we need to be prepared to protect our critical infrastructure.

The complete loss of water supply to both Des Moines, IA, and St. Joseph, MO is all too fresh in the memory of those impacted. The impacts of the flooding at a nuclear power plant could be far more severe and wide spread, and should be avoided at all costs.

The bottom line is that we all need to work together to achieve better protection for key infrastructure such as power, water, and waste facilities; as well as for our natural resources. All of these interests are vital to our society as well at to each of us individually!

After the Flood - EPA Actions

According to Raj Rajagopal, professor and chair of the geography department at the University of Iowa, two herbicides were found in Iowa rivers and streams in higher than normal amounts during the floods of 1993. Comparing his recent data with previous USGS data, Dr. Rajagopal estimated that the Mississippi River carried 175 metric tons of atrazine and 20 metric tons of alachlor into the Gulf of Mexico between July 7 and August 12. "This is more than the 160 metric tons of atrazine and 18 metric tons of alachlor that flowed into the Gulf during all of 1991," wrote Dr. Rajagopal. "The long-term implications of such short-term shock inputs of chemicals into the aquatic ecosystems of rivers and oceans remain to be answered."

According to the Des Moines Register (January 13), the 1993 floods inundated more than two dozen hazardous chemical sites in Iowa, causing problems at more than 260 water treatment plants and sending hundreds of chemical drums and fuel tanks down rivers. However, according to Alan Stokes, Iowa Department of Natural Resources, most facilities are back to normal operation, and there are no lingering pollution problems caused or aggravated by the flood.

The Des Moines Register, referring to an EPA report says:

- 22 facilities that use or produce hazardous chemicals were flooded in Iowa. A half dozen superfund dump sites were hit.
- 176 public drinking water systems and 88 sewage treatment plants flooded. Of the four states in EPA's Midwest Region, Iowa had by far the most drinking water systems affected. Missouri had 76, Kansas 61, and Nebraska 32. Iowa had the second highest number of sewage systems flooded. Missouri had 149, Kansas 75, and Nebraska 51.
- EPA contractors pulled 777 stray chemical drums from Iowa's waterways and their banks. Missouri had 15,272, Kansas 630, and Nebraska 1. EPA had no specific information on what the barrels contained, but they were tested for flammability and other characteristics and disposed of at special hazardous waste sites.
- Workers pulled 149 propane tanks and 23 other fuel storage tanks from Iowa rivers.
- In a sweep of the 11 hardest hit counties, EPA contractors collected 26 tons of paint, pesticides, solvents and other hazardous wastes from homeowners. By comparison 9 tons were collected in Missouri and 4 tons in Nebraska. Kansas wasn't listed.

The EPA is coordinating a special monitoring program to help identify contamination and sediments in surface waters that pose a threat to human health and the environment. The program covers all nine states eligible for flood disaster assistance.

"These supplemental monitoring programs will assist the affected states by filling gaps in contamination identification not covered by ongoing monitoring programs or other special flood activities," said Mary Belefski, chairperson of the EPA Water Workgroup. "In addition to identifying immediate health and environmental threats, results of this monitoring will help the states identify their longer-term water quality concerns brought on by the flood."

Some EPA-assisted monitoring has already been initiated. For instance, at the request of the Missouri Department of Natural Resources, EPA Region 7 has collected and analyzed 46 river samples and seven samples each of raw and finished drinking water at cities using surface water for their primary supply.

Source: Nonpoint Source News-Notes, November-December 1993, #33, c/o Terrene Institute, 1717 K. Street, NW, Washington, D.C. 20006 and The Des Moines Register, January 13, 1994.

More Rigid Enforcement in Iowa–The E-Team

Less than a year ago, an Iowa criminal jury trial returned guilty verdicts on charges of water pollution and unlawful storage and disposal of hazardous wastes against the owner of a metal stripping business in Muscatine. The defendant was sentenced to jail by the trial judge, despite having no prior criminal history.

The verdict marked a milestone in the development of environmental prosecution in Iowa. It sent a clear signal that in certain circumstances, people in the community are willing to hold polluters criminally responsible for their actions.

Factors cited by the court included the defendant's disregard for the safety of others in the community and the seriousness of acts of pollution. The court stated that, unlike a theft in which money is taken from one individual or company, the defendant had taken something from all of us which cannot be given a simple dollar value.

The jury's verdict and the jail sentence were important achievements of Iowa's fledgling "E-Team", which had filed its first case less than a year earlier. This special prosecution unit was created by Attorney General Bonnie Campbell in a joint effort with the Department of Natural Resources to investigate and prosecute environmental crime.

One of the crucial challenges in environmental prosecution is to find out about pollution acts in time to gather evidence necessary for prosecution. Criminal evidentiary standards are higher than those required in administrative or civil actions. In order to meet that challenge, greater awareness was needed on the part of the public, law enforcement, regulatory personnel, and other professionals that environmental crimes exist, that they will be investigated and prosecuted, and how to report them.

Several months were devoted to presentations and meetings around the state to create awareness of the program and to solicit ideas and tips.

Another challenge to the prosecution of environmental crime is the attitude that such cases "aren't really criminal." Educational efforts, along with the public's rising concern about the environment, are helpful in addressing this challenge.

Public opinion polls in Iowa are now showing that the environment is of top public concern. Citizens are beginning to consider environmental abusers as criminals, just as they do armed robbers and drug pushers.

Cases to date have resulted from acts reported by employees, firefighters, law enforcement, and Department of Natural Resources personnel. Teamwork is required in discovering and reporting acts of pollution, and it is essential to the investigation which must "make a case" that meets the higher burden placed on the state in criminal cases. Both the scientific and law enforcement aspects of an investigation are crucial and they must be coordinated.

The scientific or regulatory part of an investigation is normally performed by environmental specialists and others in the Department of Natural Resources. The law enforcement aspect of the investigation is carried out by special agents from the Division of Criminal Investigation, the U.S. Coast Guard, and local law enforcement agencies.

On December 30, 1991, the E-Team filed its first and largest case against a riverboat, the Mississippi Belle II, for dumping untreated sewage into the Mississippi River. The company and its boat manager paid fines and penalties totalling $201,000.

Since then, the E-Team has prosecuted cases resulting in approximately half a million dollars in fines and penalties. Most of the cases involved water pollution charges. They span industries as diverse as

river transportation, construction, recreation, printing, stripping, livestock production, manufacturing, and meat processing.

In most of the cases, companies have been charged, but in some cases, individual officers or managers have also been charged. The factors considered in the decision to personally charge an individual include, but are not limited to:

-the individual's degree of involvement in the day-to-day activities of the business,
- the capacity to prevent the acts of pollution,
-the individual's level of knowledge of negligence, and,
- generally speaking, the egregiousness of the individual's acts.

Generally speaking, violations are first screened for criminal potential before seeking administrative or civil penalties. Factors considered in the screening process include the following:

- Deception: If an individual or business has been dishonest with a regulatory inspector, it may indicate that an attempt is being made to hide a serious act of pollution.
- Environmental impact or impact to health and safety: It may be difficult to prove the immediate and direct impact of a discharge into the Mississippi River, because of the river's great volume of water. Under certain circumstances, expert testimony may be used to demonstrate the effect on water quality and the result of pollution acts. Although it is not necessary to be able to demonstrate such impact, it is one factor which is weighed in the screening process.
- The offender's violation history: The seriousness of a first-time offender's action or failure to act may outweigh the absence of a prior violation history.

Source: Groundwater Quarterly, Vol. 4 No. 3, September 1993; For further information, contact Kathleen M. Deal, Assistant Attorney General, Department of Justice, Iowa, Des Moines, IA 50319.

Missouri River Master Manual Update

Revision of the Corps of Engineer's Master Water Control Manual (Master Manual) for operation of their main stem Missouri River dams is coming to a conclusion. The last interagency planning meeting has been held, and distribution of a draft EIS is expected in the Spring.

Both environmental and economic alternatives have been reviewed, but the recommended alternative awaits a final Corps' decision. Implementation of an alternative which favors some form of environmental restoration is critical to ecosystem recovery and to the potential productivity of scour holes and wetlands left behind by the 1993 floods.

Four new developments came out of that final interagency meeting:

1) A new alternative was presented by the Corps which was developed to maximize environmental values, while minimizing impacts on economics -- particularly impacts on the navigation industry.

2) The Indian tribes, through the Mni Sose Tribal Water Rights Coalition, played a major role in the meeting. The tribes coordinated their testimony and their presentations, a tribute to the success of the Mni Sose at building a representative coalition of the Indian tribes of the Missouri River.

3) Hydropower and water supply dwarf other economic benefits of the Missouri River system such as navigation and recreation. Since changes to system operations have little impact on hydropower or water supply, most of the alternatives are a wash economically. Therefore, according to Col. Schaufelberger, Commander of the Corps' Missouri River Division (MRD), environmental considerations may well drive the system ultimately.

4) The politicization of the Master Manual review process has caused a greater degree of scrutiny of the Corps' MRD office by the Corps' Washington headquarters. The possibility exists that headquarters may not allow MRD to identify a preferred alternative in the forthcoming EIS. Almost all participants at the final meeting questioned the value of publishing an EIS that fails to indicate how the Corps prefers to operate the river system in the future.

Source: The Missouri River Report, The Official Publication of the Missouri River Basin Association, P.O. Box 9193, Missoula, MT 59807.

Mississippi/Illinois River System Navigation Study Update

A study of the impacts of navigation on the Upper Mississippi and Illinois rivers has been a contentious issue since the early 1970's. It was thought that development of a Master Plan for the Management of the Upper Mississippi River System in the early 1980's would resolve those issues.

However, the Master Plan was completed and resolution of navigation impacts issues was deferred to the Corps of Engineers who, with the assistance of an interagency team, developed a Plan of Study (POS) for evaluating those impacts. Implementation of that POS has been on hold ever since.

This is an issue which has implications around the Mississippi River Basin because studies completed on the Upper Mississippi and Illinois rivers would have application throughout the Basin, in both pooled and unpooled navigation systems. Some believe this may be

one of those issues where the Corps simply doesn't want to ask the question they don't want to know the answer to.

Upper Mississippi River Conservation Committee (UMRCC) biologists contend that operation and maintenance of the navigation system itself, as well as the movements of the vessels have serious impacts on the rivers' fisheries resources. In many reaches, the nine-foot diameter, mainline towboat props (acting like huge blenders) process the entire water column – fish eggs, fish larvae, and all. The severe shear forces produced by towboat props are believed to destroy millions of fish eggs and larvae.

According to the November/December issue of *The UMRCC Newsletter* "The Plan of Study is Dead?". "In separate letters to the U.S. Fish and Wildlife Service, one from the Corps of Engineers headquartes in Washington, D.C. and another from the Lower Mississippi Valley Division Engineer, the Corps has stated that the POS is no longer a separate initiative for funding within the Corps. Both letters state that the POS has been absorbed into the current navigation (system rehabilitation) study."

Many UMRCC biologists believe that this is a clear statement from the Corps that it does not intend to conduct key navigation impact studies. The present "...combined Mississippi and Illinois River navigation study plan includes only Corps' selected elements of the POS, previously agreed to (by all five states, the Corps, the U.S. EPA, and the U.S. Fish & Wildlife Service".

According to *The UMRCC Newsletter* the Corps' primary interest is in adding 1200-foot long locks to approximately seven locks and dams on the Illinois and Mississippi rivers. This would double lock capacity and make it possible to put twice as many tows on the system. Placing twice as many tows on the system would have the potential of destroying twice as many fish eggs and larvae.

One of the major issues now confronting the interagency Navigation Environmental Coordinating Committee (NECC) is the definition of "significance". "There is no disagreement from anyone on this point." The Corps will be responsible for mitigating any significant impacts that result from increased navigation capacity.

The problem is the lack of a precise definition of what is a significant impact. In the three impact study workgroups that have met thus far (mussels, adult fish, and larval fish) there is a general consensus that relative impacts upon a resource can probably be determined.

For example with a good study design, we theoretically might determine that a 10% loss of larval walleye might occur as a result of increased navigation over some time period. Someone must then decide whether this 10% loss is significant and from an overall public perspective, whether or not mitigating it is justified.

- One opinion might argue that this loss is of no consequence, since most larvae would not survive to adulthood anyway. The loss is therefore not significant.
- Another opinion might argue that the 10% loss is significant ecologically, though maybe not economically.
- Even another argument can be made that this event cannot be considered in isolation - impacts are cumulative. In other words many factors are impacting survival of walleye eggs and larvae, and an additional 10% loss may just be the "straw that breaks the camel's back".

Scientific investigations to settle these arguments would be expensive and may not resolve the issue. These questions will thus probably have to be answered in the political arena. According to *The UMRCC Newsletter*, the NECC is now looking for guidance from others who have had to resolve similar dilemmas.

However, the NECC need look no further than the history of their own Upper Mississippi River System Master Plan. It and its offspring, the Upper Mississippi River Environmental Management Program (EMP), are products of just such a compromise. Panels of experts were assembled, and expert opinions were used to justify the EMP. In the final days of

the Master Plan, the debate came down to a simple question between navigation and environmental interests: "We need this, what do you need?" Both recommended needs (a second 600-foot lock at Lock and Dam 26 and a 10-year environmental program) went forward to Congress. Each recommendation was supported by separate constituencies, and both were authorized and funded. The lock is/or is nearly complete, and the EMP is in its seventh year of implementation.

According to *The UMRCC Newsletter*, the Corps is presently attempting to contract with an independent panel/committee of ecological experts to provide guidance concerning the technical aspects of the navigation impacts analyses. The National Academy of Sciences may perform such an overview.

Source: The UMRCC Newsletter, November/December 1993.

USDA Authorizes Cost-Sharing on Riparian Buffer Strips

The USDA Agricultural Stabilization and Conservation Service (ASCS) has authorized a new cost-sharing practice for eligible agricultural lands. The practice, Riparian Buffer Strips, or WP7, removes nutrients, sediment, organic matter, and pesticides from surface and subsurface flow with vegetation planted adjacent to permanent and intermittent streams or waterbodies.

The vegetation removes pollutants by deposition, absorption, plant uptake, denitrification, and other processes. It reduces pollution and protects water quality while enhancing the ecosystem.

According to the ASCS, land eligible for WP7 must be adjacent to or surrounding permanent or intermittent streams, lakes or ponds; any intermittent or permanently flooded wetland, or sinkholes; Karst areas; and other groundwater recharge areas. In addition, the adjacent contributing land must be cropland, pasture, hayland, or rangeland. The practice must meet all requirements of federal, state, and local environmental laws.

Cost-sharing is authorized for establishment of vegetation suited for site conditions; and for fencing and development needed to keep cattle and livestock from grazing the area. Local SCS offices will provide technical assistance in evaluating sites.

Source: Nonpoint Source News-Notes, November-December 1993, #33, c/o Terrene Institute, 1717 K. Street, NW, Washington, D.C. 20006. For additional information, contact your local ASCS office.

A Cowboy's Viewpoint: Stewardship from the Saddle

Grazing and rangeland management, a hot topic in the west during 1993, is expected to continue to be controversial in 1994. According to *The Land Letter*, the 1993 debate included an early November call for Interior Secretary Babbitt's resignation by the National Inholders Association.

Reeves Brown, a cattleman, member of the Colorado Cattlemen's Association, and participant in the activities of the Colorado Riparian Association provided the following views on the rancher's role in land stewardship in the Terrene Institute's Non-Point Source News Notes:

Ranching and Riparian Management:

Livestock operators have an inherent interest in good riparian management because 1) their livelihood depends on availability of clean and abundant water; and 2) unlike many other users of riparian areas, livestock operators, and most likely their children, must live with the consequences of today's management practices for many years to come. This holds true on both private and public lands for any multigenerational ranching operation. The average Colorado range has been in the same family for 67 years.

Reeves says that livestock operators have an inherent vested (continued) interest in good riparian management. It is to their advantage to take the best care of riparian areas possible. Good management not only yields increased short-term profitability, but also pays long-term dividends in the form of improved resource productivity.

He says it's important for the livestock community to recognize that riparian management, like any other form of resource management, is not something to be suspicious of. It's equally important for riparian resource managers, both public and private, to recognize that riparian management is not synonymous with fencing off riparian corridors. Good riparian management means evaluating the specific needs and characteristics of each riparian and upland watershed, understanding the goals of all parties involved, and incorporating a flexible management policy that works with existing riparian uses to enhance recognized resource values.

Wildlife Habitat vs. Golf Courses

In the big picture of resource management (riparian, watershed, wildlife, and otherwise), Colorado's livestock producers play a more important role than simply serving as on-site resource stewards.

Livestock producers (and private landowners in general) provide habitat and on-site habitat management. Certainly, some landowners provide better management than others, but they all provide habitat. Because

these ranching units require open space, hay meadows, and pasture land, livestock producers and their desire to maintain their families' way of life are often the only things standing between migratory big game routes and 18 hole golf courses in Colorado's valuable, aesthetic mountain valleys.

There are as many different opinions on how private landowners should best manage habitat as there are environmentalists; however, regardless of the quality of the management, the landowner in all cases ultimately provides the habitat. Therefore, the answer to achieving optimum habitat management is not to remove livestock producers from the picture, but rather to help them carry out this management function more effectively, and in a way that helps them achieve their goals (both economic and social) as landowners.

For those who would argue that the best livestock operators are no livestock operators, Reeves suggests that someone is going to own these private parcels of critical mountain valley habitat, and if this someone is not a rancher who requires open space for his existence, then it will be the highest bidder for the property. Given the inherent value of Colorado's aesthetic mountain valleys, this highest bidder is not likely to be another fourth-generation rancher. The new owner is more likely to be a real estate developer, land speculator, or urban professional seeking a summer vacation home. In any of these cases, the habitat once managed by the rancher as a by-product of commodity production will now be replaced by smaller 20-acre ranchettes and golf courses, both of which spell habitat fragmentation and disappearance of migratory corridors.

Community Stability

A rarely recognized function livestock operators play in our overall landscape goals, according to Reeves, is maintaining community stability. Most of Colorado's rural communities depend heavily on land-based industries such as agriculture for their base economic activity. Most of these communities do not have a Reebok shoe factory or a business college to help sustain their economy. While the recreation and tourism traffic contributes a solid short-term injection into these

economies, such sources are primarily seasonal and do not sustain the longer-term multigenerational aspects of rural communities.

Much of what we value about our western Colorado landscape has more to do with culture than anything else. Without the base economy and spirit of community that ranching families support, rural western Colorado would either be devastated economically or converted to bedroom communities like Vail . . . where the closest thing to culture is found in imported yogurt.

In summary, Reeves believes there's room for improvement in all areas of land management, including within the livestock industry. He also believes that for this improvement to be realized and new ideas to be accepted, we need to recognize and appreciate the traditional values that current stewards and societies place on these lands. Maintaining sustainable ecosystems means much more than simply increasing ground cover on a riparian streambank; it also means preserving our cultural heritage and maintaining a balance between us and our environment.

For more information on the Colorado Riparian Association, contact: Karen Hamilton, President, Colorado Riparian Association, 2060 Broadway, Suite 230, Boulder, CO 80302.

Source: Nonpoint Source News-Notes, November-December 1993, #33, c/o Terrene Institute, 1717 K. Street, NW, Washington, D.C. 20006 and Land Letter, The Newsletter for Natural Resource Professionals, November 20, 1993, Vol. 12, No. 31.

Managing Change: Grazing on Western Riparian Areas

EPA's Denver-based office (Region 8) has produced a new report: "*Managing Change--Livestock Grazing on Western Riparian Areas*". The report is meant for use by ranchers and others concerned with the conservation and wise use of western range lands.

Its publication is particularly apt at this time when the Clinton Administration seeks to introduce new approaches to the preservation, restoration, and environmentally sound use of these lands.

In 1990, EPA published the original "*Livestock Grazing on Western*

Riparian Areas", providing a broad view of the functions and values of western riparian areas and causes and effects of degraded riparian areas and water quality.

The current report, a sequel and companion piece, indicates that together the two reports are designed to foster broader understanding of how improved grazing management on western riparian areas can enhance water quality and overall productivity of rangeland watersheds. The publication was written by Ed Chaney, Wayne Elmore and Bill Platts of the Northwest Resource Information Center in Eagle, Idaho.

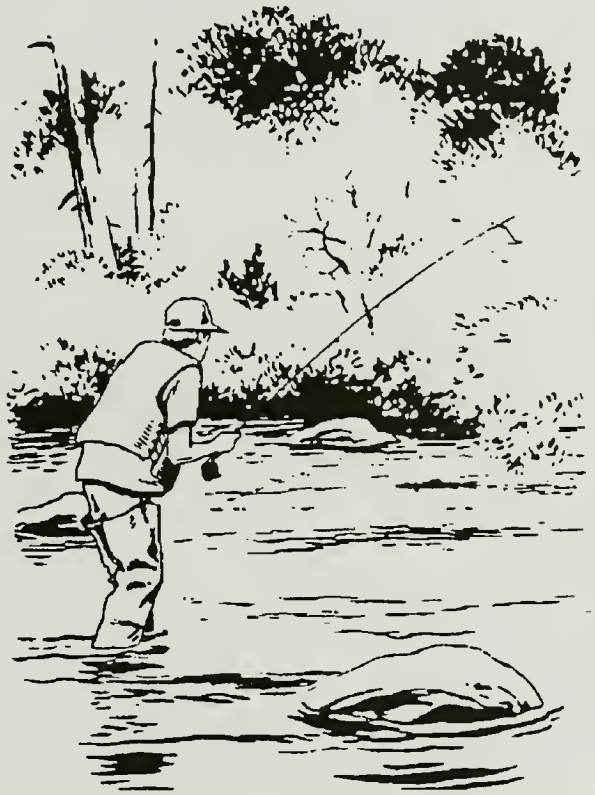
Copies can be obtained by sending a postcard to one of the following sources: Brad Lamb, EPA Region 6, 1445 Ross Avenue, Suite 1200, Dallas, TX 75202-2733; Julie Elfing, EPA Region 7, 726 Minnesota Avenue, Kansas City, KS 66101; Roger Dean, EPA Region 8, 999 18th Street, Suite 500, Denver, CO 80202-2466; Robert Goo, EPA (4503), 401 M Street, SW, Washington, DC 20460; Don Pritchard, BLM Service Center, P.O. Box 25047, Lakewood, CO 80225; Craig Whittekiend, Forest Service Region 2, P.O. Box 25127, Denver, CO 80225-5127; or Keith Wadman, Soil Conservation Service, P.O. Box 2890, Washington, DC 20013.

Source: Nonpoint Source News-Notes, November-December 1993, #33, c/o Terrene Institute, 1717 K Street, NW, Washington, D.C. 20006

Trout Stream Therapy

The University of Wisconsin Press has published *Trout Stream Therapy*, a book by Robert L. Hunt.

Trout Stream Therapy is a fully illustrated field guide to improving trout habitat in streams damaged by human activities associated with agriculture, forestry, and urbanization. Over the past four decades state and federal natural resource management agencies in the Midwestern region have devised, tested, and refined a variety of techniques intended to restore healthy living conditions for



trout. Leading the way in this regional effort has been the innovative and aggressive program of the Wisconsin Department of Natural Resources (DNR).

For 35 years Robert L. Hunt has been a research biologist with the Wisconsin DNR. In this role he has carried out many of the pioneering field evaluations of the techniques developed to reestablish healthy wild trout populations, and improve the sport fisheries that depend on those populations.

Trout Stream Therapy provides twenty-one of the most up-to-date, successful, field-tested techniques applicable not only to Midwestern streams, but also to physically similar streams elsewhere in the United States and in other countries. According to the publishers professional fisheries biologists and administrators responsible for rehabilitating trout habitats will find this manual an invaluable reference in the field and the in the office.

The many sketches and color photographs will be particularly helpful to those interested in restoring trout streams, but lacking scientific training.

Cost of the book is $39.95 (cloth) and $19.95 (paperbound). Order from The University of Wisconsin Press, 114 North Murray St., Madison, WI 53715-1199.

Quality Criteria for Water

A new government document entitled, *Quality Criteria for Water* provides environmental regulators and technical personnel with Environmental Protection Agency (EPA) guidance on instream concentrations for more than 85 toxicants. It also summarizes tolerance levels for: aquatic life, human health, temperature, dissolved oxygen, color, pH, and hardness.

Summaries are arranged alphabetically by chemical and usually include the numerical limits both for exposed populations of aquatic life and for human health. EPA guidance on limits cited in this book is frequently adopted as state water quality standards. Each listing also

includes the Federal Register number so users can easily research additional information about a particular chemical. Subscription service includes the basic manual and one supplement. The material is punched for your 3-ring binder.

To order ask for: List ID QUCW from Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954. Price is $23.00.

Source: AIFRB Briefs, Vol. 22, No. 6, December 1993.

Lead Sinkers Targeted

Last fall the Environmental Defense Fund (EDF), North American Loon Fund (NALF), Trumpeter Swan Society (TSS), and the Federation of Fly Fishers (FFF) submitted a letter to the Secretary of the Interior petitioning the Department to prohibit, by regulation, the use of lead weights for fishing on any Fish and Wildlife Service (FWS) Refuge and National Park Service (NPS) land where the common loon or trumpeter swan breed- or may stop over during migration. This action was based on mounting evidence that waterfowl are ingesting fishing sinkers and dying of lead toxicosis.

The birds may pick up the sinkers as they ingest grit to aid in digestion, or when taking live or discarded bait they artificially ingest the hook, line, and sinker! The FWS assisted Tufts University School of Veterinary Medicine in studying the mortality of common loons on their breeding waters in New England. Many of the common loons had ingested lead fishing sinkers and appear to have died of acute lead poisoning.

In June the FWS and the NPS published the petitioner's letter and solicited public comments on its merits. The comment period ended 2 September 1993.

The EDP, NALF, TSS, and FFF have also filed a lawsuit against the EPA requiring that they establish lead as a toxic substance under the Toxic Substances Control Act (TSCA). EPA has already "made a preliminary determination that certain lead fishing sinkers present an unreasonable risk of injury to waterfowl" and that banning the production and use of certain lead sinkers was "necessary to adequately protect against that risk". EPA agreed to announce a ruling which would detail a ban by next January.

Under TSCA S6, EPA has the authority to "prohibit or otherwise regulate any manner or method of commercial use" of lead fishing sinkers. The poisoning of mute swans in England persuaded the legislature to ban lead fishing sinkers there in 1987.

The FWS, Migratory Bird Management Office (MBMO) has prepared a briefing statement on the issue for the Director. The Division of Environmental Contaminants along with MBMO, Division of Refuges, and Federal Aid has prepared a Decision Document for the Director, including options for dealing with lead fishing sinker related mortality in migratory birds.

There are six strategies described which extend the continuum from no action, to a Refuge and Park Service Unit ban, to a nationwide ban of the recreational use of lead fishing weights, and obviously choices in between.

The tackle manufacturers appear willing to accept a ban, but for competition and manufacturing reasons, expressed a preference for a national ban rather than a site by site ban.

In the meantime the race is on to find a suitable substitute, a number of which are already available. In England, the most popular substitute is a tin split shot made by Dinsmores (also available in the US). In Canada Bi Logic Tackle has produced an "environmentally friendly fishing sinker" made from bismuth ("99.99% lead free"). Here in the US, Water Gremlin, Inc. (which has almost 80% of the lead sinker market), is merchandising "environmentally friendly unleaded fishing sinkers" made of tin for split shot or a plastic compounded with iron and tungsten for swivel sinkers, egg sinkers, and needle nose worm weights.

Temporal and Spatial Distribution of Interior Least Tern Nesting Habitat Along the Lower Mississippi River

The interior population of the least tern, Sterna antillarum athalassos, is a migratory shore bird population that was listed as federally endangered in June 1985. The primary concern prompting the endangered classification was loss of the bird's river sandbar breeding and nesting habitat as a result of river development, and the effects of regulated flows on nesting habitat availability.

Management of flows and sandbar habitats for least terns can be in conflict with in some habitat needs of the federally endangered pallid sturgeon, especially in the reaches between the large Missouri River reservoirs. Along the Lower Mississippi River (LMR), the least tern breeds, nests, and rears its young on sandbars and islands in the channel from about May through August. The least tern population is concentrated along the northern 500 miles of the LMR where 37 to 72 sandbars are utilized annually.

LMR sandbar habitats are dynamic, and significant shifts in sandbar morphology and location may occur over time, as a result of shifts in the hydrologic regime and channel geometry. As sediments are transported through the river system, they are alternately stored on point bars and middle bars during low flows and transported downriver during

flood events. Both long-term and short-term LMR sandbar habitat dynamics are major factors which must be considered in evaluating system-wide least tern nesting habitats. Dense stands of sandbar and black willow may become established on the higher portions of sandbars.

Sandbar habitat quantities, vegetation encroachment, and access of predators and humans to sandbars are of concern with regard to LMR least tern protection. Least tern Recovery Plan Task 21 recommends the need to "Determine breeding habitat requirements and status". To address these habitat concerns and to evaluate effects of river engineering works on the least tern, the Lower Mississippi Valley Division, U. S. Army Corps of Engineers initiated a series of sandbar habitat studies in 1992. General objectives of these studies are to:

1) Quantify system-wide trends in the quantity, and temporal and spatial distribution of sandbar habitats along the northern 650 miles of the LMR;

2) Determine the effect of hydrologic variables such as river stage frequencies and durations on the quantity of emergent sandbar habitat available to the least tern during the nesting season along the LMR;

3) Determine temporal trends in woody vegetation establishment and distribution on LMR sandbars;

4) Evaluate relationships between hydrologic factors (e.g. frequency and duration of river stage and discharge, and the lowest elevations to which woody vegetation extend down-slope on LMR sandbars); and

5) Evaluate relationships between hydrologic, soils, and sandbar morphologic variables and the age, date of colonization, stem density, stem height, and other population characteristics of sandbar willow tree stands in the LMR.

The LMR geographic information system (LMRGIS), operating on GRASS software and Intergraph CADD workstations, will be used for most of the sandbar habitat analyses. The LMRGIS contains aquatic macrohabitat and elevation map layers for four time periods (1940's, 1960's, 1970's, 1980's). Data generated from these layers will be used to quantify system-wide trends in the spatial and temporal distribution of sandbar habitats. In addition, digital elevation models (DEMS) developed from hydrographic survey data using Intergraph Corporation's Terrain Modeler software will be used to evaluate detailed changes in individual sandbar size, elevations, and slopes. River stage-sandbar area relationships will be derived and used to evaluate effects of river stage frequencies and durations on the amount and availability of emergent sandbar habitat during the least tern nesting season.

Annual aerial photography from 1950 to the present will be used to map sandbar vegetation stands for several representative LMR sandbars. The 1982 and 1992 forest map layer in the LMRGIS will also be used. Temporal changes in vegetation will be related to hydrologic variables and sandbar morphology.

Detailed ecological studies of black and sandbar willow tree stands on sandbars will consist of making quantitative measurements of stand variables along transects oriented perpendicular to river flow across individual sandbars. The age of discrete willow tree stands will be determined from tree borings. Soil core samples will also be collected. DEMS will be used to derive sandbar slope, elevation, and aspect data. Analyses of relationships between willow tree stand variables and hydrologic, elevation, and soils data will be conducted to evaluate factors affecting initial colonization as well as stand growth. Elevation of the willow tree line at about 100 points located on sandbars along the LMR will be surveyed. These data will be used to develop relationships between the down-slope extent of willow tree stands and hydrologic variables such as river stage and discharge. This information will be used to determine what areas of LMR sandbars will remain free of woody vegetation because they are inundated too frequently or for too long during periods that are critical for the survival of willow tree species.

Information from the sandbar habitat investigations will be used in conjunction with the least tern population census data being gathered by the Corps' Memphis District office and other data to develop a biological assessment for the LMR least tern.

Contact: Stephen P. Cobb, U.S. Army Corps of Engineers, Lower Mississippi Valley Division, P. O. Box 80, Vicksburg, MS 39180, (601) 634-5854, FAX (601) 634-5468.

February 26-March 1: 1st Annual Meeting of the Lower Mississippi River Conservation Committee, Camelot Hotel, Little Rock, AR. Contact: Mike Armstrong, Arkansas Game and Fish Commission, 2 Natural Resources Drive, Little Rock, AR 72205. The Lower Mississippi River Conservation Committee (LMRCC) will be holding their First Annual Meeting in conjunction with the Southern Division of the American Fisheries Society Mid-Year Technical Session. The LMRCC is a recently formed organization of state conservation agencies bordering the lower Mississippi River (confluence of the Ohio River to the Gulf), and a cooperator of MICRA's.

March 1-4: Human Dimensions in Ecosystem Management (short course), Pullman, WA. Contact: WSU Conferences and Institutes, 208 Van Doren Hall, Washington State University, Pullman, WA 99164-5222. (509) 335-3530. FAX: 335-0945. Cost: $495. Topics may include evolution of ecosystem management as a social/ political phenomenon, legal framework, social impacts, institutional barriers, role of collaboration, relationship between ecosystem management and culture (including Native American concerns), and social assessment.

March 3-5: NALMS 3rd Annual Southeastern Lakes Management Conference--Watershed Management: From Concept to Implementation, Columbia, SC. Contact: Kathy Stecker, Water Quality Monitoring, SCDHEC, 2600 Bull Street, Columbia, SC 29201. (803) 734-5402. FAX: 734-5216. Topics: regional issues, developing watershed management strategies, reservoir interactions, education, lake studies and assessment, conflict resolution, building coalitions.

March 6-9: Innovative Solutions for Contaminated Site Management, Miami, FL. Contact: Nancy Blatt, Water Environment Federation, 601 Wythe Street, Alexandria, VA 22314-1994. (703) 684-2400.

March 7-10: National Pesticides Management Conference, St. Louis, MO. Contact: Lynn Kirschner, CTIC, 1220 Potter Dr., West Lafayatte, IN 47906. (317) 494-9555. FAX: 494-5969.

March 7-11: The Role and Meaning of Economics in Resource and Ecosystem Management Decisions (short course), Pullman, WA. Contact: WSU Conferences and Institutes, 208 Van Doren Hall, Washington State University, Pullman, WA 99164-5222. (509) 335-3530. FAX: 335-0945. Cost: $595. Topics include economic and ecological approaches to sustainable resource management, resolving public and private legal and economic interests and objectives, methods for predicting economic cost of saving resources and ecosystems such as salmon habitat, and assessing tradeoff choices.

March 12-15: Uses and Effects of Cultured Fishes in Aquatic Ecosystems, Albuquerque, NM. Contact: Delano Graff, Pennsylvania Fish Commission, Bureau of Fisheries, 450 Robinson Lane, Bellefonte, PA 16823-9616. (814) 359-5154, FAX (814) 359-5153. This symposium will examine the roles of hatcheries and genetics in fisheries management.

March 14-18: Water Quality and Aquatic Ecosystems (short course), Pullman, WA. Contact: WSU Conferences and Institutes, 208 Van Doren Hall, Washington State University, Pullman, WA 99164-5222. (509) 335-3530. FAX: 335-0945. Cost: $895. Includes overview of physical, chemical and biological aspects of aquatic ecosystems; hydrological cycle; watershed and stream interactions; eutrophication; effects of point and nonpoint source pollutants; geomorphic alterations; fish habitat impacts; field study; laboratory processing and land management.

March 15-17: 50th Annual Meeting of the Upper Mississippi River Conservation Committee, Radisson Hotel, LaCrosse, WI. Contact: Kurt Welke, Wisconsin Dept. of Natural Resources, 111 West Dunn St., Prairie du Chien, WI 53821. (608) 326-0233. The Upper Mississippi River Conservation Committee (UMRCC) is one of the oldest, if not the oldest, standing interstate/interagency cooperative group in the nation dealing with river management issues. The UMRCC is a MICRA cooperator, and much of the MICRA organization is patterned after tried and proven UMRCC procedures. The UMRCC deals with Mississippi River management issues from the confluence of the Ohio River upstream to the Twin Cities.

March 15-18: The International Erosion Control Association 25th Annual Conference and Trade Exposition, Reno, NV. Contact: IECA, PO Box 4904, Lincoln Avenue, Suite 103B, Steamboat Springs, CO 80477-4904. (303) 879-3010. FAX: 879-8563.

March 27-30: Second International Conference on Groundwater Ecology, Atlanta, GA. Contact: John Simons, General Chairperson, EPA, Ground Water Protection Div., (4602), 401 M St., SW, Washington, DC 20460. (202) 260-7091.

March 31-April 1: Aquatic Fauna in Peril: The Southeastern Perspective, Holiday Inn-Chatanooga Choo Choo, Chattanooga, TN. Contact: Tennessee Aquarium, Attn: Janet Allen, P.O. Box 11048, Chattanooga, TN 37401-2048. The two day conference will focus on problems facing imperiled aquatic fauna of the

southeast. The conference is designed to provide a thorough historical review of the imperiled aquatic animals of the southeast as well as a review of management efforts aimed at conserving and restoring these faunas. Presentations will also address management of aquatic ecosystems in the southeast, roles of government and the public in aquatic conservation, and formulation of a unified practice of resource management. Sessions will cover imperiled insects, crustaceans, mollusks, fishes, amphibians, reptiles, birds, and mammals, and management of aquatic resources. Preregistration fee is $80, after March 1, 1994, it is $100.

April 10-13: Toxic Substances and the Hydrologic Sciences, Austin, TX. Contact: AIH, 3416 University Ave., SE, Minneapolis, MN 55414-3328. (612) 379-1030. FAX: 379-0169. Sponsored by the American Institute of Hydrology. Topics include USGS's Toxic Substances and Hydrology Program, estuarine hydrodynamics and water quality, field methods in contaminated hydrogeology, aquifer remediation in the presence of NAPLs, toxic substances in surface waters, the hydrology of the 1993 Mississippi Flood, watershed hydrology, hydrogeology of low-level radioactive waste management, and the Edwards Aquifer of central Texas.

April 17: The International Erosion Control Association 25th Annual Conference and Trade Exposition, Reno, NV. Contact: IECA, P.O. Box 4904, Lincoln Avenue, Suite 103B, Steamboat Springs, CO 80477-4904. (303) 879-3010. FAX: (303) 879-8563. Topics include innovative applications for solving erosion control problems; soil bioengineering methods and techniques; wind erosion in arid environments; erosion control for urban construction sites; streambank and shoreline stabilization; steep slope stabilization; how to meet permit requirements; erosion control in the third world; and research and development.

April 17-20: Responses to Changing Multiple-Use Demands: New Directions for Resources Planning and Management, Nashville, TN. Contact: Ralph H. Brooks, General Chairperson, Tennessee Valley Authority, Water Management, Evans Bldg., Rm. IW 141, Knoxville, TN 37902. (615) 632-6770. Topics will include water use trends, water resources forecasting, hydrologic modeling, GIS tools, water pricing policies, water allocation, water law, BMPs, environmental impact mitigation, reservoirs, and hydropower licensing.

April 19-22: Rivers Without Boundaries, The Second Bi-annual ARMS Symposium on River Planning and Management, Holiday Inn, Grand Junction, CO. Contact: Caroline Tan, ARMS Program Director, (510) 655-5844. The American River Management Society (ARMS) believes that rivers should no longer be managed in terms of boundaries, be they administrative, property or special interest. The conference will explore solutions for coordination, cooperation and consensus in the management of river systems.

April 20-22: Second Environmentally Sound Agriculture Conference, Orlando, FL. Contact: Wendy Graham, University of Florida, PO Box 110570, Gainesville, FL 32611-0570. (904) 392-9113. FAX: 392-4092. Topics include surface and ground water management, wildlife and habitat preservation, air pollution, and the urban/agriculture relationship.

April 25-29: The International Land Reclamation and Mine Drainage Conference and the 3rd International Conference on Abatement of Acidic Drainage, Pittsburgh, PA. Contact: Debbie Lowanse/Bob Kleinmann, U.S. Bureau of Mines, PO Box 18070, Pittsburgh, PA 15236. (412) 892-6708. FAX: 892-4067. Topics include acid mine drainage prediction, chemical and biological treatment of AMD, geotechnical engineering in mined areas, mine closure/bond release, mine chemistry, mine hydrology and groundwater protection, mine soil productivity, mine subsidence, mine waste management and characterization, regulations and policy issues, reclamation of derelict/abandoned mined lands, revegetation case studies, slope stability/erosion control, wetlands on mined lands, and wildlife/habitat restoration.

April 28-29: 26th Annual Meeting of the Mississippi River Research Consortium, Holiday Inn, LaCrosse, WI. Contact: Charles Theiling,

Mississippi River Research Consortium, Inc. (MRRC), 575 Lester Avenue, Onalaska, WI 54650. (618) 259-9027. The MRRC is a non-profit regional scientific society concerned with the ecology and management of the Mississippi River. The purposes of the MRRC are to encourage communication between the scientific community and the public, encourage pure and applied research concerning the water and land resources of the Mississippi River Valley, and hold an annual meeting where research results can be presented and common problems can be discussed.

May 23-25: Evolution and the Aquatic System, Doubletree Hotel, Monterey, CA. Contact: Jennifer Nielsen, Department of Molecular and Cell Biology, 401 Barker Hall, AC Wildon Laboratory, University of California, Berkely, CA 94720. (510) 642-7525. Recently the term "Evolutionarily Significant Unit" (ESU) has entered the regulatory arena in an effort to describe subunits of fish species for conservation purposes. ESU's are already established as criteria for petitions for listings by the National Marine Fisheries Services (NMFS). NMFS used genetic and other data to examine ESU's in recently petitioned fish stocks (Redfish Lake sockeye, Illinois River steelhead, and Sacramento River chinook). To define significant units in population conservation with the scientific and regulatory communities, the American Fisheries Society and other cosponsors are hosting this three day conference.

June 12-14: Multidimensional Approaches to Reservoir Fisheries Management, Chattanooga Marriott and Convention Center, Chattanooga, TN. Contact: Steve Miranda, Third Reservoir Fisheries Symposium, Mississippi Cooperative Fish & Wildlife Research Unit, P.O. Drawer BX, Mississippi State, MS 39762, FAX (601) 325-8726.

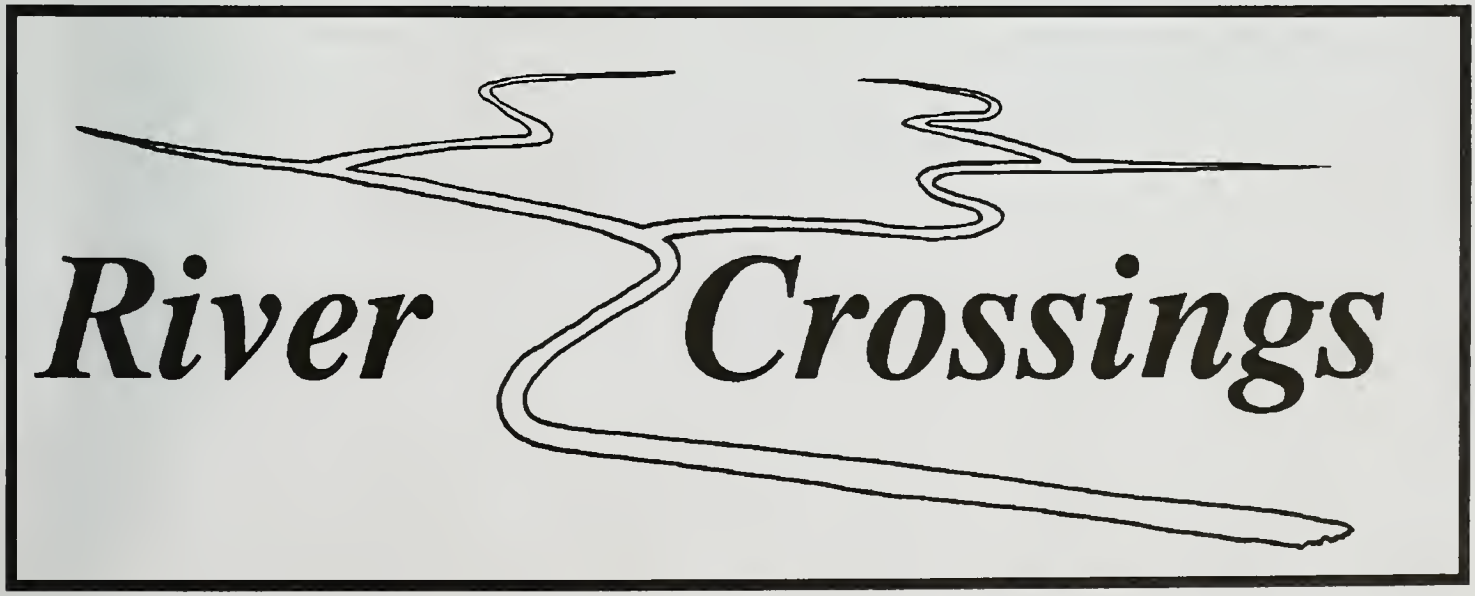
June 12-16: High Performance Fish - An International Fish Physiology Symposium, University of British Columbia, Vancouver. Contact: Don MacKinlay, Fisheries and Oceans, 555 West Hastings Street, Vancouver, Canada V6B 5G3, (604) 666-3520, FAX (604) 666-3450. The purpose of this symposium if for researchers and practitioners to exchange information on the present state and future needs of basic fish biology.

July 12-15, International Large Rivers Conference - Sustaining the Ecological Integrity of Large Floodplain Rivers: Application of Ecological Knowledge to River Management, La Crosse, WI. Contact: Ken Lubinski, National Biological Survey, Environmental Management Technical Center, Onalaska, WI 54650. (608) 783-7550, Ext. 61.

July 18-19, Applying Ecological Integrity to the Management of the Upper Mississippi River System, La Crosse, WI. Contact: Ken Lubinski, National Biological Survey, Environmental Management Technical Center, Onalaska, WI 54650. (608) 783-7550, Ext. 61.

August 3-6: Sixth International Symposium On Regulated Streams (SISORS II). The University of South Bohemia, Ceske Budejovice, Czech Republic. SISORS II is the sixth in an on-going series of International Symposia devoted to scientific research of rivers modified by large dams, weirs, channelization and flow diversion schemes. Contact: Professor G.E. Petts, Department of Geography, University of Technology, Loughborough, Leicestershire, LEll 3TU, UK.(Fax: 509 262192), or Dr. K. Prach, Faculty of Biological Sciences, Jihoceska Univerzita, Branisovska 31, 37005, CESKE BUDEJOVICE, Czech Republic. (Fax: 038 45985).

Mississippi Interstate Cooperative Resource Agreement
608 East Cherry
Columbia, MO 65201



River Crossings

Volume 3 March/April 1994 Number 2

HR 2500, The Interjurisdictional Rivers Fisheries Resources Act of 1993

Sources on Capitol Hill tell us that the House Merchant Marine and Fisheries Committee's Subcommittee on Fisheries Management has tentatively scheduled a hearing on H.R. 2500, The Interjurisdictional Rivers Fisheries Resources Act of 1993 for April 20th.

Rep. Steve Gunderson (R/WI) has apparently convinced subcommittee Chairman Thomas Manton of the need for an additional hearing, and is pushing for markup of the bill. H.R. 2500 hasn't met with any strong opposition (at least the MICRA portion), but there is still skepticism about the likelihood of its eventual passage because it is not being championed by anyone on the subcommittee of jurisdiction.

Subcommittee members include Chairman Manton (D/NY), William Hughes (D/NJ), Jolene Unsoeld (D/WA), Gene Taylor (D/MS), H. Martin Lancaster (D/NC), Dan Hamburg (D/CA), Maria Cantwell (D/WA), Earl Hutto (D/FL), Young (R/AK), Howard Coble (R/NC), Arthur Ravenel, jr. (R/SC), and Jack Kingston (R/GA). Without such a "champion" on the subcommittee, the bill is less likely to move.

The tentative hearing is to provide Gunderson a chance to testify (since he missed the hearing last summer). He apparently wishes to give voice to some who have raised concern with the bill (he cited the New York Power Authority, but did not mention their concern). He also wants to give other supporters who did not speak at the first hearing a chance to be heard. MICRA members will undoubtedly be among those wishing to testify on behalf of the bill.

Third Annual MICRA Meeting

MICRA Chairman Jim Fry (MO) has scheduled the Third Annual Meeting of the MICRA Steering Committee for May 18-19, 1994 at the Doubletree Hotel at Corporate Woods in Overland Park, KS. The meeting will be held in conjunction with the American Fisheries Society Fisheries Administrators meeting. The MICRA meeting will begin at 1 P.M on the 18th and end at noon on the 19th.

The agenda will include review of MICRA's Draft Constitution and By Laws, prepared by Fry over the winter months. Other

INSIDE THIS ISSUE

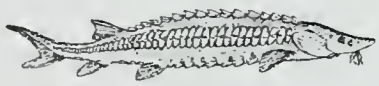
agenda items will include discussions related to the flood of 1993, introduction of exotic fishes, and possible formation of a committee to address exotic fish concerns.

For more information contact the MICRA Coordinator's office (314) 876-1911 or MICRA Chairman Fry at (314) 751-4115. For room reservations contact the Doubletree Hotel at (913) 451-6100.

MICRA Paddlefish/ Sturgeon Committee

The MICRA Paddlefish/Sturgeon Committee will meet in conjunction with the Annual MICRA Steering Committee meeting at the Doubletree Hotel at Corporate Woods in Overland Park, KS.

The Paddlefish/Sturgeon Committee will meet on May 19-20, immediately following the Steering Committee meeting, beginning at 1 P.M. on the 19th and ending at noon on the 20th. Implementation of the Committee's Strategic Plan, recently approved by the Steering Committee, will be the major topic of discussion.



Chairman Kim Graham (MO) hopes to use the meeting to prioritize goals, objectives, and tasks identified in the MICRA Paddlefish/Sturgeon Committee Strategic Plan. Graham envisions several states planning joint D-J projects to begin addressing specific needs. He also sees the need to identify outside funding sources.

For room reservations contact the Doubletree Hotel at (913) 451-6100.

Lower Mississippi River Conservation Committee Formed

The Lower Mississippi River Conservation Committee (LMRCC), a new interagency organization established to help coordinate management of the lower Mississippi River, held its first annual meeting on March 1, 1994 in Little Rock, Arkansas.

The LMRCC was established following needs expressed in recent years by the Arkansas and Mississippi chapters of the American Fisheries Society and state fish and wildlife agencies involved in managing lower Mississippi River natural resources.

The lower Mississippi River is that portion of the River from the mouth of the Ohio River to the Gulf of Mexico. Problems such as depletion of migratory fish species, point and non-point source water pollution, habitat changes resulting from flood control and navigation developments, loss of biodiversity, and exotic species such as the zebra mussel, are among the environmental problems facing the lower Mississippi River.

Through the LMRCC, river management agencies and personnel will have a forum for meeting, discussing various issues involving the river, and deciding collectively to take actions that most states would not be able to accomplish individually. The improved coordination of joint

River Crossings

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River Crossings is a mechanism for communication, information transfer, and coordination between agencies, groups and persons responsible for and/or interested in preserving and protecting the aquatic resources of the Mississippi River Drainage Basin through improved communication and management. Information provided by the newsletter, or opinions expressed in it by contributing authors are provided in the spirit of "open communication", and do not necessarily reflect the position of MICRA or any of its member States or Entities. Any comments related to "River Crossings" should be directed to the MICRA Chairman.

management and research programs should result in reduced duplication of effort and increased efficiency in dealing with river resource problems. Another benefit will be the establishment of a repository and clearinghouse for information and data on the lower Mississippi River's natural resource status, trends, and uses, which will be of assistance to biologists and other technical specialists. Two additional purposes are (1) to increase public knowledge of and involvement in river resource management, and (2) protection and establishment of a permanent forum to facilitate compatible regulations between states.

Lower Mississippi River Conservation Committee

Present voting membership in the LMRCC consists of 11 state agencies responsible for managing fish and wildlife and water quality in the states of Arkansas, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee. Each of these agencies has one voting delegate on the LMRCC's Executive Committee. In addition to the voting members, there are presently seven other state and federal cooperating agencies and organizations that will work closely with the LMRCC.

The LMRCC was formed over the last two years through the assistance of the U.S. Fish and Wildlife Service and the U.S. Army Corps of Engineers. The Fish and Wildlife Service will play a major role in the LMRCC by providing an employee to serve as LMRCC coordinator on a full-time basis.

The LMRCC will complement and work with similar organizations established in other parts of the Mississippi River drainage basin to coordinate river management actions.

For more information contact: Douglas J. Fruge, LMRCC, P.O. Box 825, Ocean Springs, Mississippi 39566, (601) 875-9387, Fax (601) 875-6604.

ARCC Being Formed

An Arkansas River Conservation Committee (ARCC) is forming on the Arkansas River in the image of similar groups on the Mississippi (UMRCC and LMRCC) and Missouri (MRNRC) rivers. The ARCC mission is "To develop the infrastructure necessary to coordinate and promote activities for the protection, enhancement, and wise use of the fisheries, wildlife, recreational, and other aquatic resources of the Arkansas River system.

ARCC's draft goals include:

- To maintain and enhance biological integrity and habitat diversity within the Arkansas River system so that native species can be conserved and so that the benefits to sport fisheries, existing commercial fisheries, boaters, naturalists, and other publics can be maximized.
- To provide a network for communication among resource agencies, industries, universities, and other groups interested in the conservation and management of the Arkansas River system that will facilitate exchange of data, coordination of funding efforts, implementation of beneficial studies, establishment of a unified voice in the political process, and promotion of environmental awareness.
- To summarize existing data bases, identify research needs, promote needed research, and encourage sound management of natural resources in the Arkansas River system.

For more information on the ARCC contact: Dr. Joe Stoeckel, Dept. of Biological Sciences, Arkansas Tech University, Russellville, AR 72801.

Lower Mississippi River Zebra Mussel Task Force Formed

A task force comprised of Louisiana State University (LSU) scientists, governmental agencies, and industry representatives was formed in late January to monitor the influx of zebra mussels into the waters of the lower Mississippi River Valley. The potential biological impact of the mussel on freshwater habitats led the U.S. Fish and Wildlife Service (USFWS) to convene this task force to facilitate monitoring and control.

Under the leadership of John Forester (USFWS), representatives of chemical and power industries along the Mississippi, Red, Ouachita, and Arkansas rivers and their academic and governmental colleagues will strive to reduce the mussel's impact on southern waters and industries by sharing data on mussel location, behavior, and innovative control methods. The information will be distributed through a newsletter developed by the Louisiana Sea Grant College Program, USFWS, and the Louisiana Cooperative Extension Service.

For more information contact: Louisiana Sea Grant College Program, Communications Office, Louisiana State University, Baton Rouge, Louisiana 70803-7507, or John Forester, USFWS, 237 Parker Coliseum.

Mississippi River Basin Alliance Appoints Coordinator

After serving 6.5 years as American Rivers' Director of Outreach and Education, Suzanne (Suzi) Wilkins will become Coordinator for the Mississippi River Basin Alliance.

The Alliance is an interactive network of diverse organizations and individuals whose purpose is to

protect and restore the ecological, cultural, historical and recreational resources in the basin.

The group has been forming over the past two years and Suzi will be based in St. Louis, moving to her new location on May 15th.

Pallid Sturgeon Recovery Plan Released

The U.S. Fish & Wildlife Service (Region 6) released the Pallid Sturgeon Recovery Plan on January 31, 1994. The pallid sturgeon was listed by the Fish & Wildlife Service as endangered on September 6, 1990.

The Recovery Plan, prepared over the past three years by an interagency team of sturgeon experts, points out that while the species range is large (Missouri and lower Mississippi rivers), catch records are extremely rare, and the species may be close to extinction.

The pallid sturgeon is uniquely adapted to habitat conditions provided by large, free-flowing, warmwater, turbid rivers with a diverse assemblage of physical habitats, that were in a constant state of change. Modifications of pallid sturgeon habitat by human activities has blocked fish movement, destroyed or altered spawning areas, reduced food sources or ability to obtain food, altered water temperatures, reduced turbidity, and changed the hydrograph of the river system. Overfishing, pollution, and hybridization that occurs due to habitat alterations also have probably contributed to the species' population decline.

The Plan's short-term (1998) recovery objective is to prevent species extinction by establishing three captive broodstock populations in separate hatcheries that are initially composed of five to seven wild adult males and five to seven wild adult females each.

The Plan's long-term objective (2040) is to downlist and delist the species through protection, habitat restoration, and propagation activities. Downlisting and delisting would be initiated when pallid sturgeon are reproducing naturally and populations are self-sustaining within designated river reaches. Delisting criteria are undeterminable at this time.

Although subject to change, currently downlisting may be considered when: (1) a population structure with at least 10% sexually mature females occurring within each recovery-priority management area has been achieved, and (2) when sufficient population numbers are present to maintain stability.

The plan recommends the following specific actions:

- Restore habitats and functions of Missouri and Mississippi River ecosystems while minimizing impacts on other river uses.
- Protect pallid sturgeon and their habitat, and minimize threats from existing and proposed human activities.
- Establish refugia for pallid sturgeon broodstock.
- Obtain information on life history and habitat requirements of all pallid sturgeon life stages.
- Research additional solutions to the impacts of human activities on pallid sturgeon and their habitats.
- Obtain information on genetic makeup of hatchery-reared and wild *Scaphirhynchus* stocks.
- Obtain information on population status and trends.
- Develop policy on a pallid sturgeon propagation and stocking program.
- Research methods to improve spawning, culture, and rearing of pallid sturgeon in hatcheries.
- Reintroduce pallid sturgeon and/or augment existing populations.
- Communicate with sturgeon researchers and managers.
- Support implementation of the Pallid Sturgeon Recovery Plan.

The Plan says that recovery costs are undeterminable at this time.

Several Recovery Team members are also members of the MICRA Paddlefish/Sturgeon Committee, and Many actions recommended by the Recovery Team are shared by the MICRA Paddlefish/Sturgeon Committee Draft Strategic Plan.

Questions regarding the Pallid Sturgeon Recovery Plan should be directed to the Field Supervisor, Ecological Services, 1500 Capitol Avenue, Bismarck, North Dakota 58501, (701) 250-4402.

Pallid Sturgeon Stocked in the Missouri and Mississippi Rivers

The Missouri Department of Conservation (MDC) stocked approximately 7,000 federally endangered pallid sturgeon fingerlings (reared and held at the MDC Blind Pony Hatchery near Sweet Springs) into the Missouri and Mississippi rivers on March 10, 1994. Five stocking sites were selected in the Mississippi River below St. Louis, and three sites in the Missouri River below Hermann. The eight release sites were selected on their ability to provide natural food for the young sturgeon.

The young, stocking sized pallid sturgeon are the result of MDC's efforts in 1992 to spawn two gravid pallid sturgeon females collected by commercial fishermen from the lower Mississippi River. This was the first successful artificial propagation of pallid sturgeon in captivity, and part of Missouri's contribution to a national effort by state and federal conservation agencies to prevent extinction of the species.

By mid-summer 1992, MDC had several thousand young sturgeons, some measuring 10 to 12 inches long and large enough for stocking. However, at the request of the U.S. Fish and Wildlife Service, MDC delayed stocking to wait for genetic analyses to determine whether the fish were true pallids or a possible hybrid of shovelnose and pallid sturgeon. Genetics tests continued to prove inconclusive; while the young sturgeon continued to eat, grow, and tie up valuable MDC hatchery space.

During the summer of 1993, Dr. Bill Pflieger, MDC Ichthyologist, and Dr. Frank Cross, professor emeritus at the University of Kansas, completed morphological examinations of the young fish, and declared them to be pallid sturgeons.

shovelnose sturgeon

pallid sturgeon

Most sturgeon experts agree that morphological measurements are the only reliable method for separating hard-to-tell sturgeon species. Before stocking, each sturgeon (now about 15 to 18 inches long) was tagged with binary coded wire and an external spaghetti tag. The coded wire tags were placed under the first dorsal scute and the double-anchor t-bar tags in the pectoral fin.

Kim Graham, MDC biologist in charge of the project, is contacting all commercial fishermen along the Missouri and Mississippi rivers in Missouri and Illinois to explain the stocking program and to ask for help in reporting all tagged and untagged pallid sturgeons accidentally captured during netting. Each commercial fisherman received a postage-paid sturgeon report card so they can easily mail all sturgeon capture information directly to MDC.

Although pallid sturgeon stocking has been controversial, MDC biologists have learned a great deal about culture and rearing of these fish. The captive spawning techniques developed by MDC will be an asset to future restoration efforts.

MDC biologists are convinced that the stocking of these fish will not pose a threat to the survival of "wild", naturally produced pallid sturgeon. In fact, the stocking is the beginning of a program intended to learn about movement, habitat preference, survival in the wild, and ultimately recovery of this endangered species.

MDC believes their tagging and release will provide an enormous amount of valuable information about a species whose life history is mostly unknown at present. Hopefully, pallid sturgeon can soon be removed from the endangered species list.

Just seven days after release, the first tag was recovered by a commercial fishermen, a short distance downstream from one of the Mississippi River release sites, so we already know that the fish survived the initial shock of stocking. According to Graham, the fishermen said the fish appeared healthy, but died accidently in the net.

Spring Flood Potential

On March 14, 1994 the National Weather Service (NWS) released its spring flood outlook. Flood potential is of considerable concern in: (1) the Northeast, including much of Pennsylvania, New York and Vermont, and western portions of New Jersey, Connecticut, Massachusetts and New Hampshire; and (2) eastern portions of North Dakota, South Dakota and western Minnesota. In both areas, the main factor leading to high flood potential is an unusually deep snow cover.

NWS based their assessment on snow cover, streamflow, soil moisture, depth of frost in the ground, and river ice thickness. The area of concern in the Northeast is due primarily to deep snow cover. However, most of those locations are not in the Mississippi River Basin

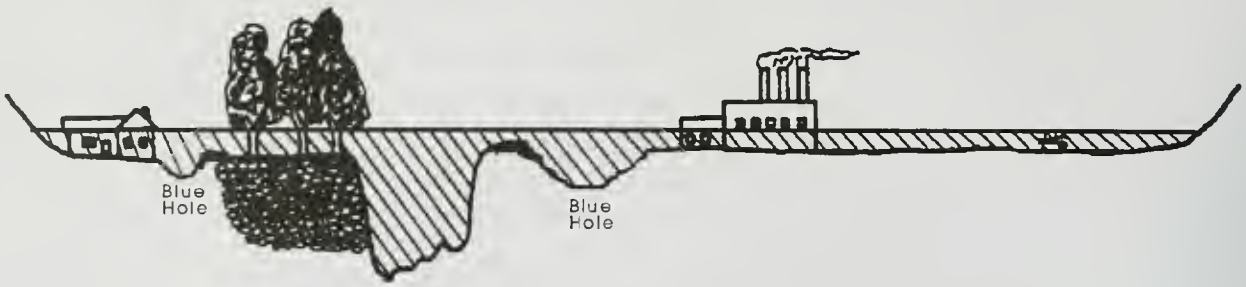
A very substantial snow pack in the upper Midwest was the primary factor of concern there, but late March and early April weather conditions have lead to a slow melt of winter snows; lessening concerns for flooding. However, residual soil moisture from last summer contributes to wet soils and relatively high streamflow. As a result, flooding is still likely on the Red River of the North, the James River, the Big Sioux River, and possibly on the Minnesota River.

In addition to the areas of highest concern, above average flood potential exists in much of the eastern half of the country due to some combination of wet soils, already high streamflow, or snow cover.

The good news is that flood potential is reduced along the mainstems of the Mississippi and Missouri Rivers in areas devastated by last summer's flooding. A dry fall and moderate winter, as well as near ideal snow melt conditions so far this spring have combined to decrease flood potential.

However, potential for flooding remains above average, and heavy spring or early summer rains could set it off.

Source: National Hydrologic Outlook - Spring Flooding Potential and Water Supply, National Weather Service, Press Briefing, March 14, 1994.



Streambank Levee Option: Extensive floodplain damage occurs when flood elevations exceed design level of levees placed at the river's edge. Levees are "blown out" and replaced with large scour or "blue" holes.

Floodplain Management Options

During the first week of April, BG Gerry Galloway and the White House Interagency Floodplain Management Review Committee (FMRC) released a summary of floodplain management options at public meetings held in St. Paul, MN; Kansas City, MO; and Springfield, IL.

Galloway pointed out that the document provided, in summary fashion, the issues and options that were presented to the Floodplain Management Review Committee over the course of the last three months. The purpose of the document and the meetings are to create an opportunity to determine:

- whether every topic of interest has been raised to the Committee's attention, and
- whether additional options exist to address these issues.

He went on to say that the options presented in the document are not recommendations, nor are they necessarily mutually exclusive. Also the document was not intended to represent the opinions or recommendations of the FMRC or the Clinton Administration. The FMRC is not asking for, or expecting, concurrence with the document or its parts.

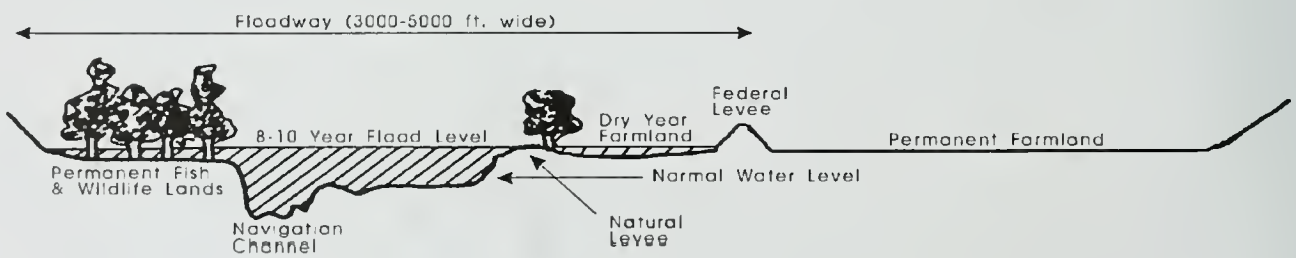
Goals of the final FMRC document (due in draft form on May 1) are to:

- reduce risk to life and property,
- reduce risk to public health and the environment from flood-released pollutants,
- preserve and enhance natural values in floodplains,
- use floodplains in accord with their potential, and
- reduce long-term federal expenditures for flood damages.

Issues identified in the document include:

- Division of floodplain and related responsibilities among Federal/ State/Tribal/Local governments,
- Reduction in the risk to those currently in the floodplain,
- Mitigation of damages to those in the floodplain, and
- Planning and control for appropriate floodplain uses.

For more information on the FMRC and its report contact: BG Gerald Galloway, Interagency Floodplain Management Review Committee, 730 Jackson Place, NW, Washington, D.C. 20503, (202) 408-5295.



Setback Levee/Floodway Option: Floodways increase water storage and conveyance capacity of floodplains, reducing flooding frequency, magnitude, damage, and repair costs.

Corps' Floodplain Management Assessment Study (FPMA)

Col. Scott, St. Paul District Engineer and study leader, says the FPMA will compliment the White House Interagency Floodplain Management Review Committee effort, lead by General BG Gerry Galloway in Washington, D.C.

A detailed Study Plan for the FPMA was due at Corps Headquarters on March 15th, and the first round of public meetings are scheduled for April 1994. The FPMA is scheduled for completion in June 1995 (one year after the White House Study's final report is due).

The FPMA will include:

- Assessment of the 1993 flooded areas, including cumulative effects of hydrologic structures (i.e. dams and levees).
- Coordination and consultation with affected Federal, state and local entities.
- Identification, projection, and evaluation of alternative future floodplain uses and display on GIS maps (presumably using SAST for the latter).
- Identification of structures needing special protection.
- Examination of present effects of different cost sharing for Upper and Lower Mississippi River projects.
- Evaluation of the effects of policy changes and improvements to the existing flood control system.
- Recommendations for specific Corps follow up studies and information needed to shorten them.

The Study Area includes all contributions of hydrologic structures, but will look only at "over bank flooding" impacts -- not water simply left standing on agricultural areas because it had no where to drain. The Corps recognizes that additional tributaries will have to be studied sooner or later.

Flood Control Tragedy

A project is currently under review in the state of Mississippi to dredge 105 miles of the Big Sunflower River for the purpose of protecting less than 2,500 acres of farmland from the average 2 year flood. The proposed project will provide little or no protection from more significant flood events and will require millions of federal tax dollars to complete.

The Big Sunflower River contains significant biological diversity, including the most extensive mussel beds in the State of Mississippi. A recent government survey recorded at least 28 mussel species, with densities exceeding 200 mussels/m^2 in some areas.

According to a VPI, Dept. of Fisheries & Wildlife information sheet, the Big Sunflower River mussel beds are among the richest in the world. The beds are estimated to be capable of producing a maximum sustainable yield of roughly 1 million lbs. of mussel shells/yr. and many jobs for the commercial shell industry.

To placate concerns for the mussel communities, the Corps has agreed to avoid two 1,000 ft. reaches with dense mussel beds, and to limit dredging to one side of the channel in some other reaches. However, the proposed dredging would cut a swath 125 to 250 ft. wide and 2-3 ft. deep through approximately 48 miles of river channel containing mussel communities with moderate to high densities.

All mussels and mussel habitat within the dredge cut would be destroyed. Sedimentation, channel degradation, and substratum instability would indirectly impact mussel beds adjacent to channel cuts.

Since the Big Sunflower River is not in the direct path of the zebra mussel invasion, nor is it subject to barge traffic, a major vector for spreading the zebra mussel, it and other small southern rivers may be crucial to preserving many mollusk species likely to be extirpated from the central and northern U.S.

For more information contact: U.S. Fish & Wildlife Service, 900 Clay Street, Thomas Bldg. #235, Vicksburg, MS 39180, (601) 634-1891; or District Engineer, U.S. Army Corps of Engineers, P.O. Box 60, Vicksburg, MS 39180, (601) 631-5000.

Source: Information Sheet from Virginia Polytechnic Institute, Dept. of Fisheries & Wildlife, Blacksburg, VA.

Emergency Wetland Reserve Program (EWRP) Signup

At the March 21st meeting of the Missouri River Basin Association (MRBA), Don Butts (Soil Conservation Service) reported that the December signup for the Emergency Wetland Reserve Program (EWRP) totaled over 40,000 acres.

In early March, 25,400 of these acres were selected for inclusion in the EWRP program at a cost of $15 million. Butts said that on April 1 an extended EWRP "open season" will begin, and run through the end of the year. This open season will be for the $85 million recently received from the Supplemental Appropriations Bill. The open season will allow farmers to go into the field this Spring and determine the "farmability" of their lands before signing up.

He said we will know better how successful EWRP is at the end of this crop year. Butts also said that an Environmental Easement Program (EEP), authorized but not funded under the 1990 farm bill, is now being looked at so that non-wetland farmlands, devastated during the flood of 1993, can also be acquired. He said such acquisitions are not authorized under the Supplemental, but that may change.

Butts said he thought demand will dictate the total dollars available. He said other legislative, as well as administrative (using President Clinton's discretionary funds) actions are being considered. Most new easement lands are expected to come in from Iowa, Illinois, and Missouri.

EWRP easements (1) take away all land rights, and then (2) grant certain rights (timber production, grazing, hunting, etc.) back to the landowner. The easements provide for no public use rights.

Butts said the price the government might pay for easements on devastated farm lands is as yet unknown. But he said SCS instructions were to avoid "Fire Sale" or "Windfall" prices, so he expects post-flood easement values to range from 60-70% of preflood land values.

To assure maximum benefits, SCS state conservationists, in consultation with others, used a ranking process to evaluate EWRP applications. Criteria used in the ranking included protection and enhancement of habitat for migratory birds, floodway expansion, proximity to other protected wetlands, level of hydrologic conditions restored, and other factors determined appropriate for wetland restoration within the state.

Agricultural producers in the Midwest who suffered losses due to floods and other adverse weather can call USDA's Flood Response Center at 1-800-880-4183 for more information on available assistance.

State	Acres Submitted	Estimated Acres Accepted	Estimated Funds To Be Awarded
Missouri	21,642	12,300	$5,570,000
Iowa	13,057	5,600	$4,230,000
South Dakota	4,736	4,300	$1,800,000
Illinois	1,702	1,300	$1,500,000
Kansas	1,664	1,200	$1,100,000
Minnesota	646	500	600,000
Nebraska	2332	200	200,000
Total	43,680	25,400	$15,000,000

State by State Sign-up/Acceptance for the 1994 Emergency Wetland Reserve Program

Missouri Department of Conservation Promotes Floodway Acquisition

In a March 11 letter to Paul Johnson, Chief of the Soil Conservation Service, Missouri Department of Conservation (MDC) Director Jerry J. Presley offered up $5 million in state funds for restoration of floodplain lands along the Missouri River.

Presley said, "The sanity with which we respond to the Flood of '93 will be measured, in the final analysis, by the number of acres we add to the floodway. The Emergency Wetland Reserve Program (EWRP) will certainly add some acres, but many EWRP contracts will be for lands that will remain protected by levees. Substantial floodway acres will still need to be added if we are to meaningfully assist in floodplain recovery, floodway restoration and reduction in severity of future flood events."

Presley proposes that a portion of this restoration be accomplished by fee title acquisition of lands within the Missouri River floodplain. He pointed out that the present federal:non-federal cost-share ratio for levee repair and restoration is 80:20, but this provides no increase in the floodways and no improvement in compatible floodplain uses. "We (MDC) propose a similar ratio for land acquisition and the Missouri Department of Conservation would guarantee the 20 percent non-federal match up to $10 million, short-term, with discussion of an additional $10 million over the next five years. A significant portion of the land to be screened for acquisition has been tentatively identified by the Scientific Assessment and Strategy Team (SAST) of the Interagency Floodplain Management Review Committee in approximately 60 polygons containing an estimated 100,000 acres (13%) of the floodplain. SAST has initially recognized that these lands are critical to addressing the long-term problems of flooding in the Missouri River Valley by risk reduction, economic efficiency and environmental enhancement."

Presley stated that MDC's proposed acquisitions would:

- be from willing sellers;
- increase the area of the functioning floodway;
- permit and encourage compatible floodplain uses, including public access and use;
- address the 59,000 acres with sand deposits greater than 24 inches which do not qualify for EWRP. The cost of removing sand one foot deep from an acre is estimated at $3,200 with no place to deposit the sand; and
- permit purchase of entire levee districts.

Presley further said that, "Upon the purchase of entire levee districts,

levees could be realigned and/or altered to achieve the greatest public benefit while protecting, through purchase, landowner rights. Levee breaches could be repaired on the upstream end of the district and levees lowered, in varying degrees, on the downstream end of the district. Such levee alteration would permit future floods to back into the marginally and progressively protected areas with minimum scour and deposition."

"In some cases", Presley said, "levees would not be repaired or may be further breached or degraded. Bottomland forests and riparian zones would be restored and side channels could be opened to provide riverine habitat, presently in short supply. Habitat for a wide variety of wildlife species would be created and enhanced for many threatened/ endangered species including neotropical migrants, piping plover, least tern, bald eagle, pallid sturgeon and paddlefish."

Presley summarizes that through the Missouri approach:

- The area, scope and function of the floodway is enhanced.
- The majority of the floodplain remains in private ownership.
- Provisions are made for marginally protected farmland as a compatible floodway use.
- The local tax base and agri-business infrastructure is protected in only a slightly devalued fashion.
- Cogent public policy is pursued while private property rights are protected.
- Some federal funds can be spent on floodway restoration instead of levee repairs, land restoration and clean-up.

Presley concludes by saying, "The Wetland Reserve Program (WRP), Emergency Wetland Reserve Program (EWRP) and the Environmental Easement Program (EEP) all have potential to help address the need for floodway restoration, and we propose to increase their attractiveness to producers. Recognizing the need to encourage landowner participation, and maximize environmental enhancement and public benefits, we are prepared to discuss making a payment ($150-200/A?) on top of EWRP, WRP or EEP to purchase, in fee-title, these lands and convert them to public ownership while continuing payments in-lieu of re-evaluated real estate taxes."

A New Vision for the Lower Missouri River

The current Vision of the Lower Missouri River, held by most river ecologists, is one of a dismal, channelized, troubled river:

- The flood control reservoirs located upstream in the Dakotas and Montana have disrupted natural flows and sediment transport processes, causing extensive bed degradation in the Iowa-Nebraska reach. This, in turn, has drained riparian habitats and lead to extensive head cutting in Iowa and Nebraska tributaries.
- Channelization and armoring of streambanks for commercial navigation from Sioux City to St. Louis have shortened and steepened the river, destroying habitat diversity and creating swift, unnatural currents, with few resting and nursery areas available for native fish and aquatic species.
- Agricultural levees on both banks have prevented overbank flooding and destroyed most natural wetlands.
- Controlled release from flood control reservoirs to augment navigation flows have disrupted natural riverine spawning and migration cycles.

The flood of 1993 provided an opportunity to change that vision. Extensive floodplain habitats were restored, and government programs (i.e. WRP, EWRP, EEP, and Missouri's buyout program) have been developed to acquire these lands from willing sellers, and allow restored habitats to remain as part of a "functioning" riverine ecosystem.

Ecologists are naturally excited about the possibility of heading off extinction of the river's native fish and wildlife species, but the public at large, and citizens along the river have even greater reason to be excited.

Visionaries all along the river have begun seeing a potential "New Vision for the Missouri River". A vision that includes restoration of open space, public use, fish and wildlife areas, recreational areas, trails, thriving river communities, and productive farm land -- a very positive vision that has been made possible by the floods of 1993!

It is now up to the citizens of the midwest to capture that vision before it disappears in the rush to "reset" the flood control system in place before the flood.

Dave Galat, University of Missouri ecologist, describes the Missouri as the "first great river of the west". St. Louis has long thought of itself as the "Gateway to the West", and many of the west's great trails begin along the Missouri River.

The river already has the federally designated "Lewis and Clark Trail" and the state sponsored KATY Trail (bike path along the old route of the MKT Railway). But the potential of these trails have never been fully achieved

because of the ecologically sterile, threatening image of the heavily channelized, leveed Missouri River.

If the Missouri River public will just give themselves the time to see this vision, before spending billions to restore the dismantled levee system, this could be a true win-win situation for both river ecology and economic interests.

Towns and cities like Hermann, Jefferson City, Roucheport, Boonville, Lexington, Kansas City, Leavenworth, St. Joseph, Omaha, and Sioux City could all take on a new life. With attractive open space recreation/ wildlife areas located along the river (as a result of EWRP buyouts), the river bluffs, the Lewis and Clark Trail, the KATY trail, and a series small boat docks/harbors; tourism could be a new industry for Missouri River towns-- to say nothing of the restored boating, hunting, and fishing opportunities.

To make this happen the Missouri River public has to "Seize the Moment", and join forces with river ecologists to restore this great river to some semblance of its original grandeur!

Perhaps, the city fathers of Washington, MO said it best at a recent flood-related meeting in Jefferson City, "If you build it they will come!" This is the way they described the tremendous public use they have gained along riverfront property, developed in their community as an open space, recreation area.

Economic Impacts of Recreation on the Upper Mississippi River

The U.S. Army Corps of Engineers, St. Paul District, has published a four page summary of a study documenting the Economic Impacts of Recreation on the Upper Mississippi River (UMR). The study completed in 1993 was "...the first study of the UMRS to produce basin-wide estimates of the total number of recreation visitors, the activities they engaged in, the amount of money they spent on recreation, and the patterns evident in their spending.

Study findings included the following:

- More than 2.3 million recreation party trips were made to UMR sites in 76 counties for 1990; totaling 12 million daily visits for the year.
- Average spending per visitor per day for items consumed on trips was $15.84, totaling $190 million for 1990.
- Boating, fishing, and sightseeing were the most popular activities.
- 86% of visits to developed areas occurred between the Twin Cities and approximately Hannibal, Missouri.
- One-third of all spending in the 76 county corridor was made by non-residents.
- Recreational activity on the UMRS for the study year supported $1.2 billion in total industrial output and 18,500 jobs nationwide. For the 76 counties in the study area, recreational activity supported $400 million in output and 7,200 jobs.

Several types of recreational activities were not included in the study, but also add significantly to the overall economic impact on the region. These included: private clubs, undeveloped area use, urban parks, commercial tour and gambling boats, fishing tournaments, and river festivals.

Copies of the report are available from Bruce Carlson of the St. Paul District Corps of Engineers, St. Paul, Minnesota, (612) 290-5252.

Missouri River Master Manual Review

Arvid Thompson (Corps of Engineers/ Omaha Division) said at a recent Missouri River Basin Association (MRBA) meeting that the Fish and Wildlife Service (Service) has been provided all necessary data for formal consultation on the Master Manual review for operation of the large Missouri River flood control reservoirs, and that the consultation process is on-going.

By April 1 all Service input will be provided to the Corps on the "selected plan". The Corps will then take that input and decide what the "preferred" plan will be. New Deputy Assistant Secretary of the Army (Civil Works), Zersky will hold a one-day Washington summit in April to brief federal agencies on the Corps decision. By the end of April, a 1-3 page document will be released describing some rationale, but few details of the preferred plan.

Then while the Service prepares it's Opinion an EIS will be written. A 1-3 day workshop will be held in late May or early June with MRBA representatives to discuss/debate the EIS draft.

Briefings will then be provided to the Governors and Congressionals. After that, 15 public meetings will be held (from Helena, MT to Memphis, TN). Timing is not yet fully worked out, but all this is expected to happen before the end of July.

Changes Proposed for Glen Canyon Dam Operations

Like Missouri River dams, operations of Arizona's Glen Canyon Dam may also soon be changed. According to recommendations made in a recent Bureau of Reclamation (BOR) Draft Environmental Impact Statement, changes are needed at Glen Canyon to minimize adverse environmental impacts.

The 311-page BOR document presents nine alternatives that cover a full range of possible operations to protect the environmental and cultural resources of the Grand Canyon and the Colorado River region.

BOR prefers the Modified Low Fluctuating Flow alternative, which would significantly reduce daily flow fluctuations below the historic release pattern. If the preferred alternative is implemented, sediment would accumulate in the river system, and long-term beach degradation would stop.

For more information contact: Colorado River Studies Office, Bureau of Reclamation, POB 11568, Salt Lake City, Utah 84147, (801) 524-5479.

Source: Association of American Geographers Water Resources Specialty Group Newsletter, Vol 14, No. 1, March, 1994.

Nonstructural Flood Control in France

Two existing dams on France's Loire River will be demolished to restore migration routes for the threatened Atlantic salmon. The French government has decided not to build a flood control dam, but instead will implement a nonstructural plan that emphasizes strict floodplain zoning, a ban on gravel mining, and restoration of river bank habitat.

Source: Association of American Geographers Water Resources Specialty Group Newsletter, Vol 14, No. 1, March, 1994.

Shutting Down U.S. Hydropower Dams?

Both EPA and the Interior Department (DOI) are arguing that the federal government has the authority to shut down, or decommission, hydropower dams, though EPA is declining to say whether the government can require decommissioned dams to be removed. DOI takes a stronger stance, asserting that the government is not only within its rights to order dam removal, but that it must require environmental protection and restoration projects as part of dam decommissioning.

The two federal agencies are urging the Federal Energy Regulatory Commission (FERC) in response to its solicitation of public comments to consider dam decommissioning within the scope of its hydropower licensing authority. FERC's notice of inquiry on the issue comes as the commission considers relicensing more than 100 hydropower projects. This relicensing process has focused increased attention on hydropower's effects on water quality, and has led environmentalists to join in the call for decommissioning and removal of several dams. To date, no federally licensed dam has ever been removed without the support of the licensee.

FERC issued its notice (Docket No. RM93-23-000) on Sept. 15, 1993 to determine whether it "[c]an and should consider decommissioning of a project as an alternative to issuance of a new license for it and, if so, under what circumstances and pursuant to what conditions?" While the notice states that FERC is not proposing "new regulations at this time," both EPA and DOI strongly encourage the commission to proceed with rulemaking.

DOI points out that FERC's decommissioning authority is inherent in the Federal Power Act (FPA), which requires that hydropower licenses are issued only for those projects "consistent with basin-wide objectives" including "non-power values" such as fisheries, wildlife and recreation. According to DOI this decommissioning authority extends to removal of project facilities if the public interest would be served by such an action.

FERC's decommissioning rulemaking should include policy on establishment of a hydropower reserve or trust fund to pay for dam decommissioning, and that this fund's creation should be part of a project's license, DOI says. DOI notes that in the past taxpayers have had to "bear the burden of retiring inactive or abandoned projects," but suggests that project owners/operators and their customers "should fund the cost of project retirement."

Source: Water Policy Report, Vol. III, No. 4, February 16, 1994 .

UMRCC Says Upper Mississippi River Threatened

According to a February 3, 1994 news release of the Upper Mississippi River Conservation Committee (UMRCC), the fish and wildlife resources of the Upper Mississippi River "may be on the verge of rapid decline", and the Upper Mississippi (between Minneapolis and the mouth of the Ohio River "is on its way to becoming little more than a shipping channel."

The UMRCC drew these conclusions

in a report titled "*Facing the Threat: An Ecosystem Management Strategy for the Upper Mississippi River System; a Call to Action from the Upper Mississippi River Conservation Committee*." The report concludes that ecological collapse of one of the world's great rivers may be just around the corner unless there are dramatic steps taken to change the way the river is managed.

"Increasing sedimentation, continued stream channelization, levees separating the river from its floodplain, water level control for navigation, planned expansion of the commercial navigation infrastructure, and the introduction of a variety of toxins into the river system are the major contributors to the decline of the ecosystem."

"The challenge America faces is to develop (by the end of this century) and implement (over the next 50 years) a comprehensive program to protect and restore the ecosystem of the Upper Mississippi River," the UMRCC report concludes. "This will require new tools, probably new authorities, and a level of effort unprecedented in the history of environmental restoration."

Three significant recent events have caused UMRCC biologists and resource managers to realize that ecosystem management of the Upper Mississippi River is critically needed: (1) the great flood of 1993, (2) the systemic navigation study being conducted by the Corps of Engineers, and (3) evidence that the ecosystem is beginning to decline rapidly. "The flood of 1993 taught us that we must reexamine our floodplain development policies and that we must also prioritize those developments deserving of federal involvement," the report concludes.

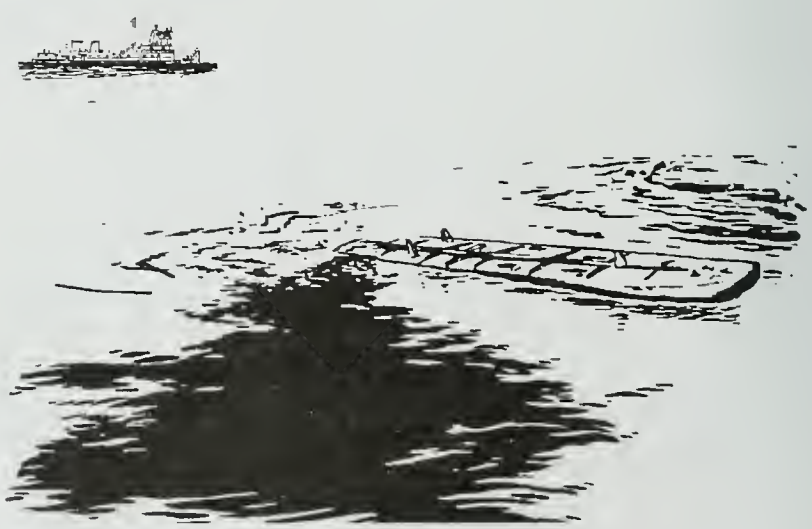
"The UMRCC believes that what is truly needed is a unified federal policy for the floodplain that weighs the benefits versus costs of all floodplain uses. The UMRCC supports a basin-wide effort to develop long-term, cost effective alternatives rather than continued taxpayer subsidization of inappropriate floodplain developments."

Commercial navigation is also of great concern to river managers. The Corps of Engineers plans to spend over $40 million in the next six years to study the expansion of the nine-foot channel navigation system from Minneapolis, Minn. to Cairo, Ill. Five or more 1,200-foot locks (along with other lesser improvements), costing billions of dollars, are envisioned by the Corps.

While the UMRCC concludes commercial traffic on the river is vital to the nation's economy, the group believes that commercial navigation planning is proceeding much too rapidly and without necessary long-term environmental planning for fish and wildlife resources. The Corps' study of the "feasibility" of expanded navigation includes more than $7 million for engineering and design of new navigation structures. And this proposed navigation expansion comes at a time when the environmental effects of the original lock and dam projects--built 50-60 years ago--are beginning to become apparent. The damming of the river for navigation significantly impaired its natural processes and created an inevitable decline "that could eventually leave a barge canal and little else".

The long-term decline of dammed rivers---documented around the world---includes points of relatively sudden ecological collapse. The river's biologists fear that such a collapse, which has already occurred on the Illinois River, may soon occur on the Mississippi---and with devastating results.

No government agency currently has authority to take a comprehensive ecosystem approach to managing the river. The UMRCC warns that the quality environment now used by millions of fisherman, boaters, hunters, bird watchers and others will



decline significantly in coming years. Government and the American people must take a new approach to managing the Mississippi River, the UMRCC report concludes.

Copies of the report can be obtained from the UMRCC Coordinator, 4469 48th Avenue, Court, Rock Island, Illinois 61201, (309) 793-5800, FAX (309) 793-5804.

Special Designation Recommended for the Mississippi River

The health of the Mississippi River is in jeopardy, according to a report released on March 7th by the Izaak Walton League of America (IWLA) and the Natural Resources Defense Council (NRDC).

"*Restoring the Big River: A Clean Water Act Blueprint for the Mississippi*" reveals that toxic chemicals, manufacturing wastes and agricultural runoff contaminate the river with PCBs, dioxin, pesticides, heavy metals and agricultural wastes. At the same time, sedimentation, wetlands loss and the development and maintenance of the river's navigation system are destroying wildlife habitat at alarming rates.

"The Mississippi River is in trouble," stated Paul Hansen, Midwest Director of the IWLA. "Many stretches of the river do not meet the basic national goals of fishable or swimmable waters established by the 1972 Clean Water Act." Robbins Marks, NRDC resource specialist and report co-author, added, "An increasing number of river biologists warn that we may soon cross critical ecological thresholds, leading to rapid and perhaps irreversible loss of biodiversity throughout the river." Among the findings reported by the NRDC and the IWLA are:

- As of 1991, at least 150 major chemical manufacturing facilities were located along the river. Forty-seven of those facilities discharge more than 296 million pounds of toxic chemicals directly into the Mississippi annually.
- 621 municipal wastewater treatment facilities discharge more than 1 billion gallons of wastewater directly into the river each day.
- Sedimentation, through erosion from farmlands, mining, and forestry activities, is a major cause of habitat degradation in the Upper Mississippi, causing rapid declines in animal populations (e.g., largemouth bass) and in food supplies for various wildlife (e.g., canvasback ducks, tundra swans).
- Toxic "hot spots" along the river--areas contaminated with unsafe levels of a mixture of chemicals such as chlordane, dieldrin, endrin, PCBs and dioxin--include Memphis (TN), the chemical corridor from Baton Rouge (LA) to New Orleans (LA), Sauget (IL), Calvert City (KY), Osceola and West Helena (AR) and Vicksburg (MS).
- The effects of long-banned chemicals haunt the river. DDT, banned in 1972, is found in the fatty tissue of Mississippi River catfish, a food supply for many people along the river.
- The creation and maintenance of the river as a navigation system has altered the waterway and continues to threaten its viability as an ecosystem. Engineers cut more than 150 miles from the river to ease navigation, the building of levees and artificial banks destroyed critical habitat and hindered the river's natural cleansing and flooding processes, and barge traffic continues to pose an environmental threat to water quality and river species.

"To restore the Mississippi to its original glory and make it a productive waterbody for both people and wildlife, Congress must use the Clean Water Act to allow for improved management of the river," said Marks. The NRDC/IWLA report makes the following recommendations:

- Grant special designation for the Mississippi River to initiate more coordinated planning and action by state and federal agencies and other entities responsible for the river's well-being.
- Revise national "nonpoint source" policy to control polluted runoff from farms and urban areas.
- Strengthen Environmental Protection Agency and state authority to achieve pollution prevention and enforce existing "point source" laws.
- Increase protection and restoration of wetlands and riparian areas that buffer the river from contamination.
- Expand citizen involvement in regional water quality efforts.
- Update water quality standards with stricter criteria for toxic pollutants and encourage better coordination of standard setting and monitoring efforts.

THE IZAAK WALTON LEAGUE OF AMERICA

To obtain a copy of the report and its recommendations, contact the IWLA at (612) 922-1608.

Clean Water Bill Introduced

The long awaited House version of an omnibus Clean Water Act reauthorization bill (H.R. 3948) was introduced on March 3 by Public Works Committee Chairman Norman Mineta (D-CA). Although the bill does not yet contain any wetlands provisions, it is designed to be a comprehensive reauthorization vehicle, as is S. 1114, the bill approved Feb. 25 by the Senate Environment Committee.

The bill calls for greater federal assistance to state and local

governments, while encouraging flexibility in program implementation. More than $3 billion in spending is recommended in fiscal 1995 through the State Revolving Fund (SRF) program, an amount that would increase by $500 million per year thereafter to offset the estimated $137 billion in total water pollution control needs in the United States. "The federal government interest and role in cleaning up water pollution, which flows back and forth across state boundaries, is sufficient for the federal government to play a very significant regulatory role through the Clean Water Act," Mineta said. "And the federal government interest and role is sufficient for the federal government to contribute a meaningful part of the costs of that clean-up."

Although states would not be required to do watershed management planning under H.R. 3948, they could be authorized to do so in watersheds that states deem appropriate. Once a watershed is designated, states would have the flexibility to make trade-offs between point sources, and between point and non-point sources, in order to achieve water quality standards within the watershed in the most efficient, least burdensome way.

Mineta pledged to add a provision during mark-up that would allow the various sources of pollution to transfer among themselves some or all of the pollution they are allowed to discharge, provided that the overall watershed water quality standards are met. This provision has drawn fire from many environmentalists.

According to some environmentalists both bills weaken current law, and the environmental community may be forced to adopt a "kill strategy," preferring to see no bill rather than a bad bill.

Another Clean Water bill (H.R. 2199) by Merchant Marine Chairman Gerry Studds (D-MA) that would raise $4 billion annually from taxes on pesticides, fertilizers and certain pollutant dischargers did not receive endorsement from the Clinton administration. In a March 15 hearing, EPA administrator Carol Browner said the administration favored more study of such "polluter pays" taxes to determine "whether, how and what fees or taxes might be proposed."

Clean water act reauthorization priorities, according to the Association of State and Interstate Water Pollution Administrators include the following key program issues:

State Capacity: Recognition of the need for increased State capacity or authority to tailor programs to effectively implement provisions of the Act and the need to balance new initiatives and existing obligations with available implementation resources;

SRF: Enhanced funding for and improvements to implementation of the State Revolving Loan Fund (SRF) Program;

Partnership: A reaffirmed and strengthened State/EPA partnership in protecting the nation's waters by removing barriers to the consultative process in development of Federal regulations, policy and program guidance;

Watershed Management: Provision of a flexible framework for State establishment of programs which address the improvement of impaired waters on the basis of manageable hydrologic units;

Nonpoint Sources: Strengthened nonpoint source pollution control provisions;

Stormwater: Establishment of a more efficient and effective process for preventing water quality standards violations or use impairments from stormwater runoff;

CSOs: Endorsement of the process for effectively managing combined sewer overflows (CSOs) described in EPA's published combined sewer overflows policy;

Better Science and Standards: Higher priority for and a more expeditious process for establishing and updating effluent guidelines and 304(a) criteria;

Wetlands: Definition of a balanced and rational approach for effective protection of the nation's important wetlands;

Monitoring: Establishment of guidelines for and improvements to the process for coordinating water quality monitoring activities, especially among Federal agencies; and

Fish Advisories: Establishment of consistent guidelines for the issuance of fish consumption advisories.

Sources: Land Letter, March 20, 1994, and Association of State and Interstate Water Pollution Control Administrators, 750 First St. NE Suite 910, Washington, DC 20002.

Watershed Game - A Tool for Decision Makers

Conceived and created by EPA Region 6's Susan Alexander, as part of a cooperative agreement between Terrene Institute and Region 6, the "*Watershed Management Game*" is a unique training tool for local governments, watershed planners, volunteer monitors, and decision makers. "I can see river authorities, county commissioners, county judges, and industry representatives sitting down at the game board to learn about watershed management in a nonconfrontational way," Alexander commented. "It helps each player see his or her role in a larger context."

Players move across the board, traveling the length of a river, through

11 different land uses or ecoregions. They must manage the land so that water quality and watershed resources are protected and players earn a profit. To do this, says Alexander, players must balance jobs and production with the installation of Best Management Practices (BMPs) to protect water resources. The game links each land use or BMP choice with specific environmental consequences like chemical water quality, riparian health, and biological resources.

The Watershed Management Game includes a user's guide that defines terms and explains basic watershed management principles, including Total Maximum Daily Loads (TMDLs). Each game also includes several blank cards so that the game can be customized with local BMPs and land uses. Two to four people can play the game, which takes about two hours to complete. The game is suitable for watershed and nonpoint source managers, planners, college environmental students, etc.

Copies can be obtained on loan from EPA Regional Non-Point Source (NPS) coordinators or Region 6 state NPS agencies. Copies can also be purchased from Terrene Institute, 1717 K Street, NW, Suite 801, Washington, DC. 20006, (202) 833-8317, FAX: (202) 296-4071, $39.95, plus $4 shipping/handling.

Citizen's Guide to Watershed Protection

Focusing on the citizen's role in protecting watersheds, "*Clean Water in Your Watershed - A Citizen's Guide to Watershed Protection*" is a 90 page guide designed to help citizen groups work with local, state, and federal government agencies to design and complete watershed protection or restoration projects tailored to the economic, social, and environmental needs of their own communities.

The guide was developed through a cooperative agreement between U.S. EPA Region 6 and the Terrene Institute. The bulk of the guides have been sent to EPA Region 6 states for use in their NPS and watershed programs. While supplies last, single copies can be obtained by sending a self-addressed adhesive mailing label to Susan Alexander (6W-QS), U.S. EPA Region 6, 1445 Ross Ave., Dallas, TX 75202. Copies may also be purchased from the Terrene Institute for $19.95, plus $3 shipping/handling, (202) 833 8317, FAX: (202) 296-4071.

SCS - Lead Agency for Wetlands on Agricultural Lands

On January 6, 1994, the U.S. Department of Agriculture's Soil Conservation Service was recognized as the lead federal agency for delineating wetlands on agricultural lands. Four federal agencies (Agriculture, Interior, Army, and EPA) with wetlands protection responsibilities signed the new memorandum of agreement (MOA).

The MOA implements one of many recommendations regarding federal wetlands policies included in the Clinton Administration's August 24, 1993, approach to managing America's wetlands, and reflects the commitment of the Clinton Administration to implement wetland policies through a coordinated process focused on eliminating inconsistencies between agency policies, minimizing duplication of efforts, and providing an accurate delineation of wetlands for use by all agencies.

Under the agreement, farmers will be able to rely on Soil Conservation Service wetland maps for determining the extent of wetlands under both the Farm Bill (also known as the Swampbuster program) and Section 404 of the Clean Water Act.

Previously, farmers participating in U.S. farm programs received wetland maps from the Soil Conservation Service for Swampbuster purposes

only. If that farmer needed a Section 404 permit for work in wetlands, the Corps of Engineers or the EPA required an additional wetland delineation. The agreement eliminates this duplication of effort and gives the farmer one wetland determination from the federal government. The Section 404 regulatory program will continue to be administered by the Corps of Engineers and the EPA.

Copies of the MOA may be obtained by calling the EPA Wetlands Hotline at (800) 832-7828.

Source: Non-Point Source News Notes, January/February 1994 #34, c/o Terrene Institute, 1717 K Street, NW, Suite 801, Washington, D.C. 20006.

Agriculture Reorganization Bill Clears Senate Committee

A Department of Agriculture reorganization bill cleared the Senate Agricultural Committee March 9 by a vote of 17-1. The bill would streamline department operations by eliminating 7,500 federal employees, closing and consolidating 1,100 county offices, and reducing the number of USDA agencies from 43 to 28.

The latest bill creates both a Farm Services Agency and a Natural Resources Conservation Service. The USDA's current conservation cost-share programs, which are administered by the Agricultural Stabilization and Conservation Service, would be absorbed by the NRCS. Like the other proposals, the bill abolishes the Soil Conservation Service and transfers its wetlands and other conservation functions to the new NRCS.

Source: Land Letter, March 20, 1994

Takings Bills Introduced

Rep. Billy Tauzin (D-LA) unveiled H.R. 3785, the "Private Property Owners Bill of Rights," on Feb. 23, pledging an all-out effort in Congress this year to settle the "takings" issue once and for all.

The bill is designed to strike a balance between concerns for the environment and for private property owners--especially those small landowners who cannot afford to challenge federal regulations in court, Tauzin said. "Things are coming to a head now...," he said, "When you lose your job in the state of Washington because of an owl; when you lose your shrimp boat in Louisiana because of a turtle; or you lose your home in California because of a rat, the cost of environmental protection hits home". Sen. Richard Shelby (D-AL) introduced a virtually identical bill, S. 1915, on March 9.

Called "takings" bills by environmentalists because they refer to the Constitution's Fifth amendment clause prohibiting the "taking" of private property for public use without just compensation, the Tauzin bill and other related measures have sparked tremendous controversy in Congress and among environmentalists and regulators.

National Audubon Society counsel John Echeverria called the bill "a compilation of every bad idea that's ever been seen in this arena." While the bill itself has no chance of passage, he said many of the bill's key provisions could be difficult to defeat as amendments to other critical legislative efforts this year.

Property rights advocates strongly bolstered their position during the debate over the National Biological Survey Act last year, when Tauzin and Rep. Charles Taylor (R-NC) forced through a number of amendments related to the rights of private property owners. Takings issues are expected to be raised during debate over a wide range of environmental bills, in particular the Clean Water and Endangered Species acts.

H.R. 3875 sets up an administrative appeals process for private property owners confronted with adverse Endangered Species Act and wetlands rulings, and it requires compensation to owners who are deprived of 50 percent or more of their property's fair market value, or of the economically viable use of their property due to Endangered Species Act or Clean Water Act regulations. As written, the bill would "essentially gut the two environmental statutes," said John Kostyack, fisheries and wildlife counsel for the National Wildlife Federation.

In addition, the bill requires federal agencies to comply with applicable state laws regarding private property rights and privacy, prohibits federal agencies from entering private property for the purpose of gathering information without the landowner's written consent, and prohibits the use of information gathered on private land unless the owner has been provided access to that information.

Source: Land Letter, March 20, 1994

Drain Commissioner Sued For Harming Wetlands

In a case with major national implications, the Justice Department recently sued a Michigan drain commissioner for improperly authorizing the excavation of a drain that the Dept. of Justice (DOJ) says jeopardized more than 1,000 acres of wetlands and destroyed critical habitat for thousands of migratory waterfowl and wildlife species. The Oceana County, MI drain commissioner authorized the drainage of the

wetlands without first notifying or consulting the Forest Service despite the fact that he knew -- or should have known -- that the dredging would severely lower water levels which caused "irreparable harm" to the soils, vegetation and wildlife in the Huron-Manistee National Forest, DOJ contends.

The case has "very major implications nationally," a Sierra Club source says, because states all over the country have drain codes, allowing counties to dry up lands. These laws are "counter to the intent of protecting wetlands," yet they typically are allowed to supersede wetland protection laws, the source says. "If drain codes could be struck down, it will go a long way to ensure wetlands protection," the source adds. The DOJ took an interest in the case in part because a number of these drains are adjacent to federal lands. "Counties are acting unilaterally to destroy a federal resource," the Sierra Club source says.

Among other things the suit seeks to mitigate the damage caused to wetlands by installing three weirs, or small dams, in the Hagar Drain which would restore the previously existing character of the wetlands. DOJ and the Forest Service negotiated for more than a year to resolve the dispute, but the commissioner refused to approve a pending application to install the weirs unless the Forest Service met specific conditions -- including having the Forest Service pay for the weirs, holding the county harmless and requiring the government to obtain flood easements for any land upstream that may be flooded.

On Jan. 7, a judge denied a DOJ motion for a preliminary injunction. But the federal government is proceeding with the case and expects a trial date to be set soon.

Source: Water Policy Report, Vol. III, No. 4, February 16, 1994

Bureau of Reclamation Pledges New Environmental Orientation

The Department of the Interior's Bureau of Reclamation announced last fall that its new "reinvented" mission would be: To manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

The changes, contained in a document called "*Blueprint for the Future*", included these highlights:

- The Bureau said it would facilitate integrated water resources management on a watershed basis, stressing interagency cooperation, public participation, and local implementation.
- Federally owned irrigation water supply projects will not be initiated in the future.
- The Bureau pledged to be the agent of reforms needed to open the door to new uses of water that increase benefits to the largest numbers of people.
- The Bureau promised to conserve the West's distinctive character by using solid environmental practices in managing water and land resources.
- The Bureau said it would accept water conservation and efficient use as its fundamental responsibility in managing water supplies, and would try to use incentives rather than regulation.
- The establishment and continuance of Native American water rights will be a priority.
- The Bureau will emphasize the coordinated use and management of its existing facilities to improve the management of existing water supplies.
- The budget process will be changed to reflect the Bureau's new needs as a water management agency.
- Washington headquarters will develop policy and give guidance, but regional and area offices will have more direct decision-making power over projects in their regions.

For more information contact: Lisa Guide, Department of the Interior, Bureau of Reclamation (202) 208-4662.

World Record Piranha Taken in Wisconsin

While casting for bass and bluegill, David Stark, a Portage, WI fisherman, hooked and landed a 21 inch Piranha that weighed in at 6 lbs. 15 oz.

Stark, fishing in Lake Columbia early on the morning of March 26, thought he had hooked a big bass only to be surprised (after a 30 minute struggle) by the strange catch .

According to Ted Dzialo, Director of the National Freshwater Fishing Hall of Fame in Hayward, WI, Stark's catch edges the previous world record (6 lb. 8 oz.) set in 1982 by an Ohio fisherman in the South American country of Colombia.

The fish is likely the last of four piranha dumped in the lake in 1984, said Tim Larson, an official of the Department of Natural Resources. The man responsible is wanted on several conservation charges and has fled the state, Larson said.

Three of the four fish were caught within a week. The last apparently survived for ten years on bluegills and stripers. When hauled in its teeth were worn down enough to resemble human molars.

Source: La Crosse (WI) Tribune, March 28, 1994.

Fungus and Rays Devastating Amphibians

An unprecedented decline in the populations of many frogs, toads and salamanders, recently linked to increased solar radiation leaking

through a depleted ozone layer, may in fact have more to do with a rampant amphibian-killing fungus, according to the March 7 issue of New York Times.

Populations of many amphibian species have dropped precipitously world-wide, leading many scientists to consider a global cause. The ozone theory emerged from a National Academy of Sciences study that showed how UV-light damaged frog and toad eggs. But that would account for only the portion of species that lay their eggs in shallow open waters accessible to radiation.

Now, an Oregon scientist has identified the fungus, Saprolegnia, which has in recent years infested much of the world's waters, as another leading cause of mortality though other factors may be involved.

Source: Land Letter, March 20, 1994.

Meetings of Interest

April 17: The International Erosion Control Association 25th Annual Conference and Trade Exposition, Reno, NV. Contact: IECA, P.O. Box 4904, Lincoln Avenue, Suite 103B, Steamboat Springs, CO 80477-4904. (303) 879-3010. FAX: (303) 879-8563. Topics include innovative applications for solving erosion control problems; soil bioengineering methods and techniques; wind erosion in arid environments; erosion control for urban construction sites; streambank and shoreline stabilization; steep slope stabilization; how to meet permit requirements; erosion control in the third world; and research and development.

April 17-20: Responses to Changing Multiple-Use Demands: New Directions for Resources Planning and Management, Nashville, TN. Contact: Ralph H. Brooks, General Chairperson, Tennessee Valley Authority, Water Management, Evans Bldg., Rm. 1W 141, Knoxville, TN 37902. (615) 632-6770. Topics will include water use trends, water resources forecasting, hydrologic modeling, GIS tools, water pricing policies, water allocation, water law, BMPs, environmental impact mitigation, reservoirs, and hydropower licensing.

April 19-22: Rivers Without Boundaries, The Second Bi-annual ARMS Symposium on River Planning and Management, Holiday Inn, Grand Junction, CO. Contact: Caroline Tan, ARMS Program Director, (510) 655-5844. The American River Management Society (ARMS) believes that rivers should no longer be managed in terms of boundaries, be they administrative, property or special interest. The conference will explore solutions for coordination, cooperation and consensus in the management of river systems.

April 20-22: Second Environmentally Sound Agriculture Conference, Orlando, FL. Contact: Wendy Graham, University of Florida, PO Box 110570, Gainesville, FL 32611-0570. (904) 392-9113. FAX: 392-4092. Topics include surface and ground water management, wildlife and habitat preservation, air pollution, and the urban/agriculture relationship.

April 25-29: The International Land Reclamation and Mine Drainage Conference and the 3rd International Conference on Abatement of Acidic Drainage, Pittsburgh, PA. Contact: Debbie Lowanse/Bob Kleinmann, U.S. Bureau of Mines, PO Box 18070, Pittsburgh, PA 15236. (412) 892-6708. FAX: 892-4067. Topics include acid mine drainage prediction, chemical and biological treatment of AMD, mine soil productivity, waste management and characterization, reclamation of derelict/abandoned mined lands, revegetation case studies, slope

stability/erosion control, wetlands on mined lands, and wildlife/habitat restoration.

April 28-29: 26th Annual Meeting of the Mississippi River Research Consortium, Holiday Inn, LaCrosse, WI. Contact: Charles Theiling, Mississippi River Research Consortium, Inc. (MRRC), 575 Lester Avenue, Onalaska, WI 54650. (618) 259-9027. The MRRC is a non-profit regional scientific society concerned with the ecology and management of the Mississippi River.

May 16-18: American Fisheries Society Fisheries Administrators Section Spring Meeting, Doubletree Hotel at Corporate Woods in Overland Park, KS. Contact: Bob Hartman (Kansas Department of Wildlife and Parks) at (316) 672-5911 ext. 196. Hotel reservations can be made by calling (913) 451-6100.

May 18-19: Third Annual Meeting of the MICRA Steering Committee, Doubletree Hotel at Corporate Woods, Overland Park, KS. The meeting will be held in conjunction with the American Fisheries Society Fisheries Administrators meeting, beginning at 1 P.M on the 18th and ending at noon on the 19th. The MICRA agenda will include review of the Draft Constitution and By Laws. Other agenda items will include discussions related to the flood of 1993, introduction of exotic fishes, and possible formation of a committee to address exotic fish concerns. Contact: MICRA Coordinator's office (314) 876-1911 or MICRA Chairman Jim Fry at (314) 751-4115. For hotel reservations contact the Doubletree Hotel at (913) 451-6100.

May 19-20: MICRA Paddlefish Sturgeon Committee, Doubletree Hotel at Corporate Woods in Overland Park, KS. The meeting will be held in conjunction with the Annual MICRA Steering Committee meeting. Implementation of the Committee's Strategic Plan, recently approved by the MICRA Steering Committee, will be the major topic of discussion. For reservations contact the Doubletree Hotel at (913) 451-6100.

May 23-25: Evolution and the Aquatic System, Doubletree Hotel, Monterey, CA. Contact: Jennifer Nielsen, Department of Molecular and Cell Biology, 401 Barker Hall, AC Wildon Laboratory, University of California, Berkely, CA 94720. (510) 642-7525. Recently the term "Evolutionarily Significant Unit" (ESU) has entered the regulatory arena in an effort to describe subunits of fish species for conservation purposes. ESU's are already established as criteria for petitions for listings by the National Marine Fisheries Services (NMFS). NMFS used genetic and other data to examine ESU's in recently petitioned fish stocks (Redfish Lake sockeye, Illinois River steelhead, and Sacramento River chinook). To define significant units in population conservation with the scientific and regulatory communities, the American Fisheries Society and other cosponsors are hosting this three day conference.

June 12-14: Multidimensional Approaches to Reservoir Fisheries Management, Chattanooga Marriott and Convention Center, Chattanooga, TN. Contact: Steve Miranda, Third Reservoir Fisheries Symposium, Mississippi Cooperative Fish & Wildlife Research Unit, P.O. Drawer BX, Mississippi State, MS 39762, FAX (601) 325-8726.

June 12-16: High Performance Fish - An International Fish Physiology Symposium, University of British Columbia, Vancouver. Contact: Don MacKinlay, Fisheries and Oceans, 555 West Hastings Street, Vancouver, Canada V6B 5G3, (604) 666-3520, FAX (604) 666-3450. The purpose of this symposium if for researchers and practitioners to exchange information on the present state and future needs of basic fish biology.

July 12-15, International Large Rivers Conference - Sustaining the Ecological Integrity of Large Floodplain Rivers: Application of Ecological Knowledge to River Management, La Crosse, WI. Contact: Ken Lubinski, National Biological Survey, Environmental Management Technical Center, Onalaska, WI 54650. (608) 783-7550, Ext. 61.

July 18-19, Applying Ecological Integrity to the Management of the Upper Mississippi River System, La Crosse, WI. Contact: Ken Lubinski, National Biological Survey, Environmental Management Technical Center, Onalaska, WI 54650. (608) 783-7550, Ext. 61.

August 3-6: Sixth International Symposium On Regulated Streams (SISORS II). The University of South Bohemia, Ceske Budejovice, Czech Republic. SISORS II is the sixth in an on-going series of International Symposia devoted to scientific research of rivers modified by large dams, weirs, channelization and flow diversion schemes. Contact: Professor G.E. Petts, Department of Geography, University of Technology, Loughborough, Leicestershire, LEll 3TU, UK.(Fax: 509 262192), or Dr. K. Prach, Faculty of Biological Sciences, Jihoceska Univerzita, Branisovska 31, 37005, CESKE BUDEJOVICE, Czech Republic. (Fax: 038 45985).

August 21-25: 124th American Fisheries Society Annual Meeting, "Managing Now for the 21st Century: Food, Recreation, Diversity." Sheraton Hotel and World Trade Centre, Halifax, Nova Scotia. Contact Paul Brouha, AFS, 5410 Grosvenor Lane, Suite 110, Bethesda, MD 20814-2199, (301) 897-8616, Fax (301) 897-8096.

Agriculture

H.R. 3794 (Roberts, R-KS) defers deadline for compliance with conservation plans for highly erodible croplands that have been damaged by severe weather.

Endangered Species

H.R. 3978 (Pombo, R-CA) amends Endangered Species Act to incorporate greater emphasis on economic, private property rights and scientific peer review concerns.

H.R. 3997 (Doolittle, R-CA) bars endangered species listings, regulations or recovery planning if economic impact is too great and requires congressional approval of all listings retroactive to 1986.

Fish and Wildlife

H.R. 3664 (Minge, D-MN) directs Interior Department to convey New London National Fish Hatchery production facility to the state of Minnesota.

Senate Environment Committee reported S. 476, a bill to reauthorize and amend the National Fish and Wildlife Foundation Establishment Act, on Feb. 10. Passed on March 8, also allowing for the transfer of the Senacaville National Fish Hatchery to the state of Ohio and establishes a 7,000 acre wetlands research center in Brownsville, TX.

Forests

H.R. 3944 (LaRocco, D-ID) extends for one year a provision of the fiscal 1993 Interior appropriations bill that allowed the Forest Service to use money from timber salvage sales to offset costs for related ecosystem management projects.

Parks

H.R. 3709 (Vento, D-MN) overhauls process that the National Park Service and Congress uses to study new areas for possible inclusion into park system.

H.R. 3710 (Vento, D-MN) beefs up research and data collection, encourages partnerships to preserve parks, establishes emergency response mechanism and seeks to ensure that federal and state programs do not damage parks.

Recreation

H.R. 4014 (Barlow, D-KY) bars imposition of certain user fees at Army Corps of Engineers sites.

S. 1806 (Nickles, R-OK) rescinds the fee required for the use of public recreation areas at lakes and reservoirs under Corps of Engineers jurisdiction.

Takings

H.R. 3784 (Smith, R-TX) provides compensation to owners of property substantially devalued as a result of a final decision of any U.S. agency.

H.R. 3875 (Tauzin, D-LA) and S. 1915 (Shelby, D-AL) entitle owners of land that has dropped in value by 50% because of decisions made under the Endangered Species Act or wetland permitting program of the Clean Water Act to compensation, and require written consent of landowner for federal agents to enter land to gather information under both acts.

Water Quality

S. 1114, Water Pollution Control and Prevention Act of 1993, Sens. Max Baucus (D-MT) and John Chafee (R-RI), the Senate's Clean Water Act reauthorization vehicle first offered June 15, 1993. Water resources subcommittee chair Bob Grahm (D-FL) floated the new bill Jan. 21. Senate Environment's clean water panel referred S. 1114 to the full committee who voted 14-3 on Feb. 25 to approve an amended S. 1114.

H.R. 3948 (Mineta, D-CA) reauthorizes and amends the Clean Water Act.

H.R 3957 (Petri, R-WI) amends the Clean Water Act to reward states that set aside funds for water pollution control in excess of that amount required by the act, by reserving funds normally set aside for capitalization grants for water pollution control revolving funds.

H.R. 3873 (Norton, D-DC) sets aside at least 25% of Clean Water section 319 non-point source pollution grants for urban watershed restoration.

Wetlands

S. 1813 (Bond, R-Mo.) provides additional funds to repair damage from the Midwest floods of 1993 through the wetlands reserve program.

S. 1304, The Wetlands Conservation and Regulatory Improvements Act of 1993, Sens. Max Baucus (D-MT) and John Chafee (R-RI) reforms the nations wetlands regulations under the Clean Water Act. Water resources subcommittee chair Bob Grahm (D-FL) floated the new bill Jan.21.

S. 1857 (Mitchell, D-ME) increases authorized spending under the North American Wetlands Conservation Act to $40 million in fiscal 1999 from $15 million currently.

H.R. 3894 (Bereuter, R-NE) extends the conservation reserve program for 10 years and the wetlands reserve program for 5 years, enables farmers to meet conservation compliance requirements through the early withdrawal, modification, or re-enrolling of lands in the conservation reserve, and permits limited uses on lands within the conservation reserve.

Mississippi Interstate Cooperative Resource Agreement
608 East Cherry
Columbia, MO 65201

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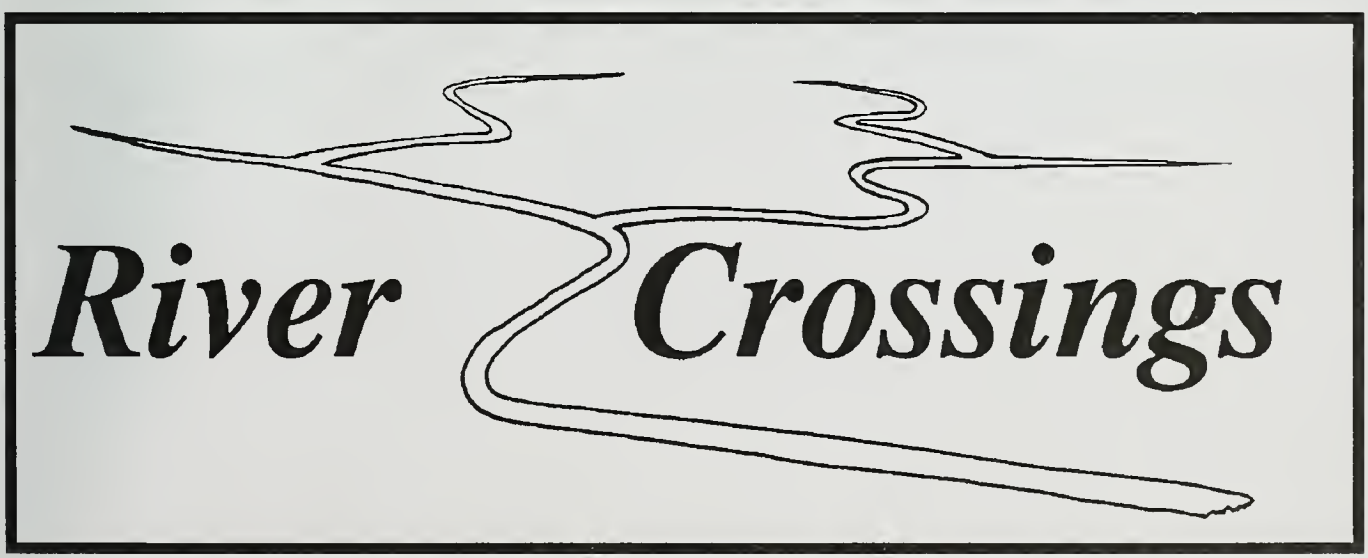

River Crossings

Volume 3 | May/June 1994 | Number 3

Restoration Planning for the Rivers of the Mississippi River Ecosystem

The Proceedings of the Symposium entitled, "Restoration Planning for the Rivers of the Mississippi River Ecosystem", presented at the American Fisheries Society Annual Meeting held in Rapids City, South Dakota in September 1993, have recently been published by the National Biological Survey.

This 500 page document includes 32 papers discussing river problems, ecology, and politics across the Basin. It provides a wealth of information and any serious river scientist will find it a useful addition to their library.

Copies can be obtained from the Publications Unit, U.S. Fish & Wildlife Service, 1849 C Street, N.W., Mail Stop 130, Webb Building, Washington, D.C. 20240 (703) 358-1711. Also a limited number of copies are available on a first come first serve basis from the MICRA Coordinator's office.

Third Annual MICRA Meeting

MICRA held its third Annual meeting in Overland Park, KS on May 18-19. The meeting centered, largely, on review of the MICRA Constitution and By-Laws, coordination with other sub-basin groups, and updates on the 1993 Floods.

It was agreed that the Constitution should be amended to clarify the MICRA name. While the acronymn MICRA officially refers to the Mississippi Interstate Cooperative Resource Agreement. The word "Agreement" is confusing in a title and will be replaced with the word "Association". The former Steering Committee will now be referred to as the "Association", and the former Policy Review Committee will become the "Executive Board". All other groups within MICRA will be referred to as "Subcommittees".

Concern was raised over introduction of the black carp. The species is being promoted to control zebra mussels, and the North Central Division of the American Fisheries Society (NCD-AFS) is circulating a resolution to stop its spread. The fear is that black carp pose a threat to all North American mollusk species.

The species was released accidentally in Missouri by a private producer. The fish lost were supposed to be sterile triploids, but no one can really be sure. The species (also supposedly triploid) is being

INSIDE THIS ISSUE

widely cultured in Arkansas, and the state can do little to stop it.

One option discussed would be to request that the Fish & Wildlife Service add it to the Title 50 list for Injurious Wildlife. It was also suggested that MICRA should develop a policy of its own. Chairman Fry agreed to form a Non-Indigenous Subcommittee of MICRA to address this problem.

MICRA Paddlefish/ Sturgeon Subcommittee

The MICRA Paddlefish/Sturgeon Subcommittee met in Overland Park, KS on May 19th.

The Subcommittee agreed to begin implementation of their Strategic Plan by developing a survey of current information on paddlefish and all sturgeon species in the Basin. Chairman Kim Graham (MO) would lead the effort, and Steve Filipek (AR), Clifton Stone (SD), Frank Jernejcic (WV), Gene Zuerlein (NE), and Jerry Rasmussen (USFWS) would collaborate.

The survey would be completed in July and distributed in August to all MICRA participants and others known to be involved in paddlefish and sturgeon research and management in the Basin.

Survey results would be due in by October 1, and summarized by January 1, 1995, with a follow-up Subcommittee meeting scheduled for February.

The group also agreed that Rasmussen should conduct a task prioritization exercise for the Paddlefish/Sturgeon Subcommittee Strategic Plan similar to the one used for the MICRA Strategic Plan.

Graham agreed to discuss sturgeon genetics issues with ichthyologists Bill Pflieger (MO) and Frank Cross (KS) to help define a MICRA position regarding the geneticists' inability to separate sturgeon species using standard genetics techniques.

Sturgeon Genetics

The genetic purity of fish species has been a hotly debated item in fisheries biology in recent years; including the recent stocking of pallid? sturgeon in the Missouri and Mississippi rivers. The Missouri spawned pallid sturgeon were essentially held hostage for over a year at a state hatchery, waiting on the results of genetics analyses to determine their purity (ie. whether or not they were pure or a hybrid of pallid sturgeon and shovelnose sturgeon parents).

Two sturgeon genetics studies have recently been released. The first was conducted by the National Biological Survey (NBS) Fish Health Lab at Kearneysville, WV. According to that report no evidence for divergence within *Scaphirhynchus* at the cytochrome b locus was found. "This is in agreement with a previous report that used allozyme electrophoresis to demonstrate the genetic identity of pallid and shovelnose sturgeon...Phelps and Allendorf (1983) demonstrated the genetic identity of *S. platorynchus* and *S. albus* at a number of allozyme loci. Our data supports this observation. Additionally, we have demonstrated identity between *S. platorynchus* and *S. suttkusi* at the cytochrome b locus. The congruence of the allozyme data of Phelps and Allendorf (1983) with the mtDNA data shown here would seem to argue that the three 'species' of the genus *Scaphirhynchus* are probably phenotypic variants of the same species (emphasis added)."

River Crossings

Published by

Mississippi Interstate Cooperative Resource Agreement (MICRA)
608 East Cherry
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River Crossings is a mechanism for communication, information transfer, and coordination between agencies, groups and persons responsible for and/or interested in preserving and protecting the aquatic resources of the Mississippi River Drainage Basin through improved communication and management. Information provided by the newsletter, or opinions expressed in it by contributing authors are provided in the spirit of "open communication", and do not necessarily reflect the position of MICRA or any of its member States or Entities. Any comments related to "River Crossings" should be directed to the MICRA Chairman.

A second study was conducted by Genetic Analyses, Inc. under contract to the Corps of Engineers. This report says, in part, "...it is possible that one of the *Scaphirhynchus* individuals is misidentified and in fact a conspecific comparison has been made; however, this merely would illustrate further inadequacy of morphological identification. The other, quite strong possibility remains that pallid and shovelnose sturgeons are actually morphs distinguished primarily by size of a single *Scaphirhynchus* species. Should that hypothesis be true, attempts to identify diagnostic genetic markers may be futile...All the results obtained in the present study suggest conspecificity of pallid and shovelnose sturgeons...The data sets produced during the research described here certainly raise the validity question to a new level of urgency, but more adequate sampling and comprehensive genetic analyses are necessary for a definitive answer to the question."

pallid sturgeon

The Genetic Analyses report was obviously less inclined to make a definitive call on this issue than was the NBS report. In essence using these genetics studies, one could argue that the pallid sturgeon does not exist.

shovelnose sturgeon

However, information recently passed along to the MICRA office, indicates that in other studies using the cytochrome b locus technique, 30 species of African cichlids (obviously morphologically different), could not be separated. For that matter the technique reportedly could not even be used to separate man from chimpanzee!. Does that mean that man does not exist? Additional information indicates that the genetic marker (cytochrome b locus) is rarely used below the Class level, let alone the Family, Genus, or Species levels.

This will no doubt be the subject of intense discussions at the next Pallid Sturgeon Recovery Team meeting (scheduled for late June in Denver). Many fish geneticists argue that current biochemical techniques are not sophisticated enough to show differences for fish as primitive as sturgeon. Additionally, fisheries biologists argue that failure to find genetic differences when only a small percentage of an organism's genotype is examined is not evidence that no genetic differences, in fact, exist.

Pallid Sturgeon Stocking Update

In early March 1994 (as reported in the last issue of "River Crossings"), the Missouri Department of Conservation (MDC) stocked approximately 7,000 fingerling pallid sturgeon into the lower Missouri River and Mississippi River below St. Louis. The sturgeon averaged about 15 inches long and biologists believed that survival would be good.

Prior to stocking, Kim Graham, Fisheries Research Biologist (MDC) and leader of the project, sent informational letters to all licensed commercial fishermen in Illinois and Missouri alerting them of the proposed stocking and asking them to report any tagged pallid sturgeon captured in their normal commercial fishing operation.

It was not long after stocking that Kim's telephone began ringing. Since stocking, 11 tagged pallid sturgeon fingerlings have been captured. An Illinois commercial fisherman has already captured five pallids about 5-6 miles downstream from their release site. Two of the five were captured a short distance upstream in the Kaskaskia River below a Lock and Dam. Another sturgeon was captured in an illegally-set gill net in a backwater area below New Madrid, Missouri. A commercial fisherman from Arkansas reported capturing a tagged sturgeon about 5 miles upstream in the St. Francis River and two additional tagged sturgeon were captured by a Tennessee commercial fishermen. A sportfisherman from Cape Girardeau, Missouri caught a tagged pallid sturgeon on pole and line, using worms as bait, and recently reported seeing a large water snake swimming across the Mississippi River with a tagged sturgeon in its mouth. The fisherman recognized the tag but was unable to retrieve the sturgeon and read the tag number.

All of the reported pallid sturgeon have displayed a downstream movement from the point of release, ranging from a few miles to over 200 miles. It is encouraging that several of the sturgeon were captured in tributary streams or in backwater areas. This suggests that the fish are possibly seeking feeding areas rich with invertebrates or other prey. Apparently survival has been good and the fish are beginning to disperse.

If anyone in the Mississippi River Basin has knowledge about tagged pallid sturgeon being sited they are asked to contact Kim Graham, Missouri Dept. of Conservation, 1110 College Avenue, Columbia, MO 65201, (314) 882-9880, FAX (314) 874-8849

U.S. Attorneys Announce Formation of Mississippi River Environmental Council

A group of 18 United States Attorneys from states with jurisdiction over the Mississippi and major tributaries have announced the formation of the Mississippi River Environmental Council. The U.S. Attorneys, as well as Lois Schiffer, Acting Assistant Attorney General at the Department of Justice; Steven Herman, Assistant Administrator for Enforcement at the Environmental Protection Agency (EPA); Rear Admiral Paul Blayney, Commander of the Second Coast Guard District; Earl E. Devaney,

Director of Criminal Enforcement at EPA, and Robert Van Heuvelan, Director of Civil Enforcement at EPA attended a day-long conference (May 20) in St. Louis to review current enforcement efforts, the status of the rivers, as well as review the major environmental laws protecting the waters from pollution.

Speaking at a press conference held during the conference, W. Charles Grace, U.S. Attorney for the Southern District of Illinois; Randall K. Rathbun, U.S. Attorney for the District of Kansas, and Edward L. Dowd, Jr., U.S. Attorney for the Eastern District of Missouri, announced the council has been formed with a clearly defined three-fold purpose:

- To educate all the U.S. Attorneys with jurisdictional responsibility for the Mississippi River and major tributaries of the condition of the rivers;
- To discuss and establish enforcement goals in regard to the rivers and their tributaries;
- To coordinate the enforcement efforts of the prosecutors, federal agencies and state authorities in terms of cleaning up our rivers and keeping them clean.

"We come together as a group to share common issues and common ground on the common interest of one of our nation's most valuable natural resources," Grace said. "We intend to insure the rigorous enforcement of clean water laws and the increased vitalities of this great river."

"The Mississippi, the Missouri and their respective tributaries are the lifeblood of this region and an asset which we must diligently protect," Dowd said. "This council is made up of policy makers, prosecutors, key federal agents and state authorities. It is clear that we must work together to effectively enforce the laws protecting our environment."

Also attending the conference were representatives from all the federal agencies with enforcement jurisdiction over the rivers. For the first time, the federal authorities asked representatives of public interest groups, such as the Izaak Walton League and the Coalition for the Environment, to present their views on how to protect the purity, beauty and sanctity of our rivers.

For More Information Contact: Christy Marshall Public Affairs Specialist, United States Attorney for the Eastern District of Missouri, 1114 Market Street St. Louis, MO. 6310l, (314) 539-2200

Osage River Paddlefish Killed by Reservoir Releases

Water releases from the Corps of Engineer's Harry S. Truman Reservoir on the Osage River reportedly killed hundreds of paddlefish in an early May incident.

High reservoir stages required the release of water through the emergency spillway since only one of six turbines are operational. Shear effects of high velocity discharge simply ripped the fish apart. Tailwater conditions are also close to nitrogen supersaturation. Missouri Department of Conservation (MDC) officials estimate that about 200 adult paddlefish were killed each day for an 8-10 day period. Delayed mortality of injured fish is expected to be at least as great.

Using a monetary value of $.35/pound, the value of fish killed exceeds one Million dollars. MDC officials are meeting with the Missouri Attorney General to discuss litigation for compensation.

Interagency Floodplain Management Review Committee Draft Report (Executive Summary Excerpts)

"The upper Mississippi and Missouri rivers and their tributaries have played an important role in the nations's history. Their existence was critical to the growth of the upper Midwest of the United States and fostered the development of major cities and a transportation network linking the region to the rest of the world. The floodplains of these rivers provide some of the most productive farmland in the country, offer diverse recreational opportunities to our citizens, and contain important ecological systems. While the development of the region has produced significant benefits, it has not always been conducted in a wise manner. As a result, today the nation faces three major problems:

- ...people and property remain at risk, not only in the floodplains of the upper Mississippi River Basin, but also throughout the nation. Many of those at risk neither fully understand the nature and the potential consequences of that risk nor share fully in the fiscal implications of bearing that risk.

- ... only in recent years have we come to appreciate fully the significance of the upper Mississippi River Basin's fragile ecosystems. Given the tremendous loss of habitat over the last two centuries, many suggest that we now face severe ecological consequences.

- ... the division of responsibilities for floodplain management...is not clearly defined....floodplain management varies widely among and within federal, state, tribal and local governments.

'The Interagency Floodplain Management Review Committee proposes a better way to manage our nation's floodplains...Now is the time to:

• Share responsibility and accountability for accomplishing floodplain management among all levels of government and with the citizens of the nation. The federal government cannot go it alone nor should it take a dominant role in the process.

• Establish, as goals for the future, the reduction of the (Nation's) vulnerability...to the dangers and damages that result from floods and the concurrent and integrated preservation and enhancement of the natural resources and functions of floodplains. Such an approach seeks to avoid unwise use of the floodplain, mitigate vulnerability when floodplains must be used, and mitigate damages when they do occur.

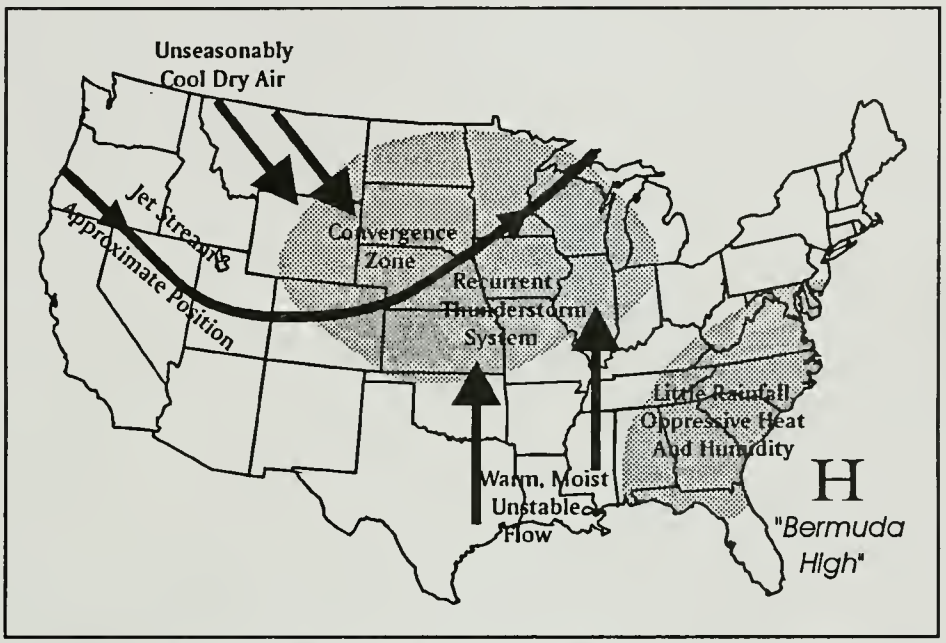
• Organize the federal government and its programs to provide the support and the tools...to carry out and participate in effective floodplain management.

'...In reviewing the Midwest Flood of 1993, the Committee found that:

• The Midwest Flood of 1993 was a hydrometeorological event unprecedented in recent times... Pre-flood rainfall saturated the ground and swelled tributary rivers. Subsequent rains quickly filled surface areas, forcing runoff into the lower lands and creating flood conditions. The (flood's) recurrence interval ranged from less than 100 years at many locations to near 500 years on the segment of the Mississippi from south of Burlington, Iowa, to St. Louis, Missouri. At 45 U.S. Geological Survey (USGS) gaging stations, the flow levels exceeded the 100-year mark. The duration of the flood added to its significance. Many areas were under water for months.

• Rainfall and floods like the 1993 event will continue to occur... Activities in the floodplain, even with levee protection, continue to remain at risk.

• The loss of wetlands and upland cover and modification of the landscape throughout the basin over the last century and a half dramatically increased runoff... Although upland watershed treatment and restoration of upland and bottomland wetlands can reduce flood stages in more frequent floods (25 years and less), it is questionable whether they would have significantly altered the 1993 conditions.



Persistent Weather Pattern That Caused the 1993 Floods

• Human activity throughout the basin has caused significant loss of habitat and ecosystem diversity. Flood damage reduction and navigation works, and land use practices have adversely altered bottomland habitat

• The costs to the nation from the flood were extensive...Thirty-eight deaths...and...damages range from $12 to $16 billion. Agriculture accounted for over half of the damages and more than 70 percent of the agricultural damages occurred in upland areas where ground saturation prevented planting or killed the crop. Nearly 50 percent of the approximately 100,000 homes damaged, suffered losses to groundwater or sewer backup as opposed to riverine flooding. Flood response and recovery operations cost the nation in excess of $6 billion. In addition there are many costs that can not yet be quantified. Impacts on businesses in and out of the basin have not been calculated...

• Flood damage reduction projects, and floodplain management programs where implemented, worked essentially as they were designed and significantly reduced the damages to population centers, agriculture and industry...

• Many locally constructed levees breached and/or overtopped. These failures frequently resulted in considerable damage through scour and deposition to the land behind the levees.

• Flooding during the 1993 event would have covered much of the floodplains of the mainstem lower Missouri and upper Mississippi rivers whether or not levees were there. Levees can cause problems in some critical reaches by backing water up on other levees or lowlands. Locks and dams and other navigation related structures did not raise flood heights.

'...the Committee reached the following conclusions:

• The division of responsibilities for floodplain management activities among and between federal, state, tribal and local governments needs to be more clearly defined...State and local governments must have a fiscal stake in floodplain management; without this stake there are few incentives to be fully involved in floodplain management. State governments must assist local governments in dealing with federal activities. The federal government must set the example in floodplain management activities.

• The National Flood Insurance Program (NFIP) needs improvement... Provision of major federal disaster assistance to those without insurance creates a perception with many floodplain residents that purchase of flood insurance is not a worthwhile investment. The mapping program is under funded and needs greater accuracy and coverage. Operating rules within the program vary from disaster to disaster and need stabilization.

• The principal federal water resources planning document, Principles and Guidelines, is outdated and does not reflect a balance among the economic, social and environmental goals of the nation...Many critics of Principles and Guidelines see it as biased against non-structural (flood control) approaches.

• Existing federal programs designed to protect and enhance the floodplain and watershed environment are not as effective as they should be. They lack emphasis, coordination, flexibility and funding and as a result, progress in habitat improvement is slow.

• Federal pre-disaster, response, recovery and mitigation programs need streamlining but are making marked progress. The aggressive and caring response of the government to the needs of flood victims clearly was recognized but many coordination problems developed and need to be addressed. Buyouts of flood prone homes and damaged lands made important inroads in reducing future flood losses.

• There is an absence of a coordinated strategy for effective management of the water resources of the upper Mississippi River Basin. Responsibility for integrated navigation, flood damage reduction and ecosystem management is divided among several federal activities.

• The current flood damage reduction system in the upper Mississippi River Basin represents a loose aggregation of federal, local and individual levees and reservoirs and does not ensure the desired reduction in the vulnerability of floodplain activities to damages. Many levees are poorly sited and will fail again in the future. Without some change in current federal programs, some of the levees will remain eligible for post-disaster support. Levee restoration programs need greater flexibility to provide for concurrent environmental restoration.

• Science and technology are not being used to full advantage in gathering and disseminating critical water resources management information. Opportunities exist to provide information needed to better plan the use of the floodplain and to operate during crisis conditions.

'The Committee developed the following recommendations:

• To ensure that the floodplain management effort is organized for success, the President should:
- Propose enactment of a Floodplain Management Act which establishes a national paradigm for floodplain management, clearly delineates federal, state, tribal and local responsibilities, provides fiscal support for state and local floodplain management activities and recognizes states as the nation's principal floodplain managers;
- Issue a revised Executive Order clearly defining the responsibility of federal agencies to exercise sound judgement in floodplain activities; and
- Activate the Water Resources Council to coordinate federal and federal-state-tribal activities in water resources. As appropriate, reestablish river basin commissions to provide a forum for federal-state-tribal coordination on regional issues.

• To focus attention on comprehensive evaluation of all federal water project and program effects, the President should immediately establish environmental quality and national economic development as co-equal objectives of planning conducted under the Principles and Guidelines. Principles and Guidelines should be revised to accommodate the new objectives and to ensure full consideration of non-structural alternatives.

• To enhance coordination of project development, to address multiple objective planning and to increase customer service, the Administration should support collaborative efforts among federal agencies and across state, tribal and local governments.

• To ensure continuing state, tribal and local interest in floodplain management success, the Administration should provide for federal-state-tribal-local cost-sharing in pre-disaster, recovery, response and mitigation activities.

• To provide for coordination of the multiple programs dealing with watershed management, the Administration should establish an Interagency Task Force to develop a coordination strategy to guide these actions.

• To take full advantage of existing federal programs which enhance the floodplain environment and provide for natural storage in bottom and uplands, the Administration should:
- Seek legislative authority to increase post-disaster flexibility in the execution of the land acquisition programs;
- Increase environmental attention in federal operation and maintenance and disaster recovery activities;
- Better coordinate the environmentally-related land interest acquisition activities of the federal government; and
- Fund, through existing authorities, programmatic acquisition of needed lands from willing sellers.

• To enhance the efficiency and effectiveness of the National Flood Insurance Program, the Administration should:
- Take vigorous steps to improve the marketing of flood insurance, enforce lender compliance rules and seek state support of insurance marketing;
- Reduce the amount of post-disaster support to those who were eligible to buy insurance but did not, to that level needed to provide for immediate health, safety and welfare; provide a safety net for low income flood victims;
- Reduce repetitive loss outlays by adding a surcharge to flood insurance policies following each claim under a policy; providing for mitigation insurance riders and supporting other mitigation activities;
- Require those who are behind levees that provide protection against less than the standard project flood discharge to purchase actuarially based insurance. This will ensure that the residual risk is borne by the affected parties;
- Increase the waiting period for activation of flood insurance policies from 5 to 15 days to limit purchases when flooding is imminent;
- Leverage technology to improve the timeliness, coverage and accuracy of flood insurance maps; support map development by levies on the policy base and from appropriated funds because the general taxpayer benefits from this program; and
- Provide for the purchase of mitigation insurance to cover the cost of elevating, demolishing, or relocating substantially damaged buildings.

• To reduce the vulnerability to flood damages of those in the floodplain, the Administration should:
- Give full consideration to all possible alternatives for vulnerability reduction, including permanent evacuation of flood prone areas, flood warning, floodproofing of structures remaining in the floodplain, creation of additional natural and artificial storage and adequately sized and maintained levees and other structures;
- Adopt flood damage reduction guidelines based on revised Principles and Guidelines which would give full weight to social, economic and environmental values and assure that all vulnerability reduction alternatives are given equal consideration; and
- Where appropriate, reduce the vulnerability of population centers and critical infrastructure to the standard project flood discharge through use of floodplain management activities and programs.

• To ensure that existing, federally constructed, water resources projects continue to meet their intended purposes and are reflective of current national social and environmental goals, the Administration should require periodic review of completed projects.

• To provide for efficiency in operations and for consistency of standards, the Administration should limit repair, rehabilitation and construction of levees under federal programs to the U.S. Army Corps of Engineers.

• To ensure the integrity of levees and the environmental and hydraulic efficiencies of the floodplain, states and tribes should ensure proper siting, construction and maintenance of non-federal levees.

• To capitalize on the successes in federal, state, tribal and local pre-disaster, response, recovery and mitigation efforts during and following the 1993 flood and to streamline future efforts, the Administration should:
- Through the NFIP Community Rating System, encourage states and communities to develop and implement floodplain management and hazard mitigation plans;
- Provide funding for programmatic buyouts of structures at risk in the floodplain;
- Provide states the option of receiving Section 404 Hazard Mitigation Grants as block grants;
- Assign the Director, Federal Emergency Management Agency, responsibility for integrating federal disaster response and recovery operations; and
- Encourage federal agencies to use non-disaster funding to support hazard mitigation activities on a routine basis.

• To provide integrated, hydrologic, hydraulic and ecosystems management of the upper Mississippi River Basin, the Administration should:
- Establish Upper Mississippi River and Missouri River Basin Commissions to deal with basin level program coordination;
- Assign responsibility, in consultation with the Congress, to the Mississippi River Commission (MRC), for integrated management of flood damage reduction, ecosystem management and navigation on the Upper Mississippi River and tributaries;
-Expand MRC membership to include representation from the Department of the Interior;
-Assign MRC responsibility for development of a plan to provide long-term control and maintenance of sound federally built and federally supported levees along the main stems of the Mississippi and Missouri Rivers. This support would be contingent on meeting appropriate engineering, environmental and social standards;
- Seek authorization from the Congress to establish an Upper Mississippi River and Tributaries

project for management of the federal flood damage reduction and navigation activities in the upper Mississippi River Basin;
- Establish the upper Mississippi River Basin as a cross-agency Ecosystem Management Demonstration Project; and
- Charge the Department of the Interior with conduct of an ecosystems needs analysis of the upper Mississippi River Basin.

• To provide timely gathering and dissemination of the critical water resources information needed for floodplain management and disaster operations, the Administration should:
- Establish at USGS an information clearing house to provide federal agencies and state and local activities the information already gathered by the federal government during and following the 1993 flood and to build on the pioneering nature of this effort; and
- Exploit science and technology to support monitoring, analysis, modeling, geographic information system and decision support system development for floodplain activities."

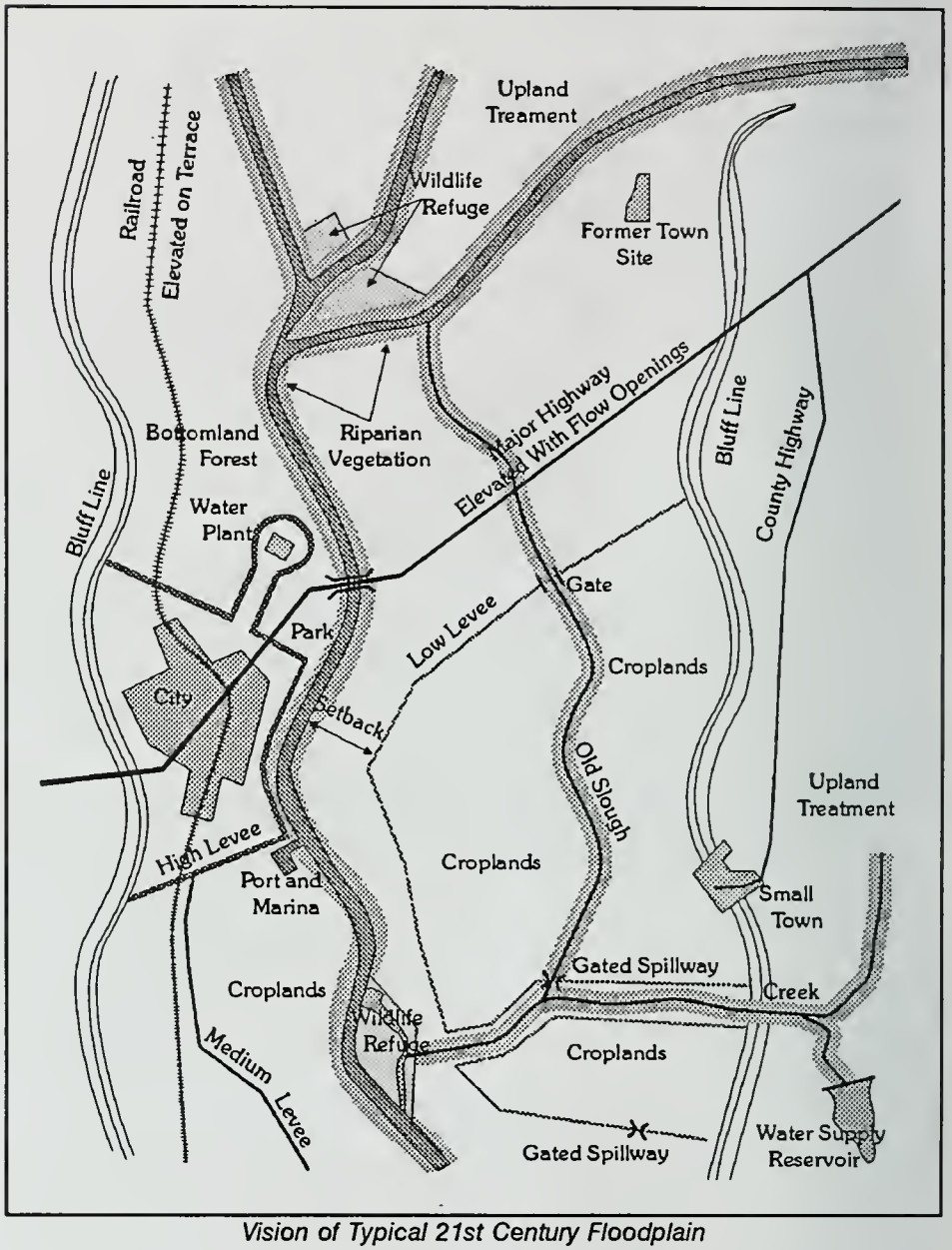
For more information on the report contact: BG Gerald Galloway, Interagency Floodplain Management Review Committee, 730 Jackson Place, NW, Washington, D.C. 20503, (202) 408-5295.

Vision for the Floodplain

The Interagency Flooplain Management Review Committee developed the following vision for 21st century flooplains:

"The United States, as it moves into the 21st Century, is at a crossroads in the use of floodplains. The nation may choose to use these flood-prone lands for the primary purpose of economic development, or it may take action to better balance their economic and environmental outputs. Floodplain resources can be shared by human occupants and natural systems...

'...watershed-focused programs are now emerging, and the United States has begun to move in a new direction. Concern for the environment and sustainable development as well as



Vision of Typical 21st Century Floodplain

recognition of the severe limits of federal spending and funding opportunities lost in flood recovery, speak clearly to the need for reexamining the nation's flood damage reduction strategy.

'...A movement to reduce flood damages through non-structural means, limiting unwise development of the floodplain and evacuating those at most risk, gradually has become a partner with the construction of dams, levees, and floodwalls.

'...the Review Committee proposes goals for the nation's future use of its floodplains and management of that use:

'From a strategic viewpoint:

• Reduce the vulnerability of the nation to the dangers and damages that result from floods.
• Reduce the vulnerability to urban

areas, industry and agriculture, when such reduction is justified and reasonable; avoid new development when reduction is not appropriate.
- As appropriate, move those currently at risk from the floodplain.
- Strive to eliminate threats to life, property, and the environment, and to the mental health and well being of floodplain occupants.
- Ensure the viability of critical infrastructure and the regional economy.
- Preserve and enhance the natural resources and functions of floodplains.
- Treat the floodplain as part of a physical and biological system that includes the floodplain within the larger context of its watershed.
- Seek to identify and enhance the cultural, historic, and aesthetic values of floodplains.
- Where appropriate, restore and enhance bottomland and related upland habitat and flood storage.
- Using existing programs acquire over time environmental interest in these lands from willing sellers.
- Ensure the consideration of social and environmental factors in all actions relating to the floodplain.

'From an operational viewpoint:

- Streamline the floodplain management process.
- Implement consistent, equitable, flexible, cost-shared and efficient floodplain management by improving the National Flood Insurance Program, federal-state-tribal-local-individual relationships, and the conduct of mitigation and disaster planning and execution.
- Ensure federal-state-tribal-local-individual collaboration and accountability in a bottom-up, shared planning and decision making process.
- Reduce the cost to the nation of flood damages.
- Share the risk among all levels of government and among flood affected individuals.
- Capitalize on technology to provide information required to manage the floodplain.
- Provide timely and accurate information to assist in identifying hazards, determining impacts of proposed actions, and developing a temporal and spatial basis for long-term strategies.
- Leverage the strength of geographic information systems.

'Were this vision (See accompanying figure) to be implemented... Human activity in the floodplain would continue, but with a clear recognition that any such activity would be subject to the residual risk of flooding and assumption of the costs of this risk would be by those sponsoring the activity.

'Determining future activities would depend on historical settlement, on a balancing of the economic, social, and environmental impacts of an activity together with a recognition of its place in the hydraulic regime of the river basin and what physical impacts its existence has on other segments of that basin.

'Urban centers whose existence depends on a river for commerce or whose locational advantage is tied historically to a floodplain would be protected from the ravages of devastating floods by means of levees, floodwalls, upstream reservoirs, or floodwater storage in managed upland and floodplain natural areas. Sections of communities with frequently flooded businesses or homes would become river-focused parks and recreation areas as former occupants relocated to safer areas on higher ground.

'In areas outside of these highly protected communities, where land elevation provided natural protection from floods, state and local officials would control new construction by requiring it to be at elevations well out of harm's way. Those who were at risk in low lying areas would be relocated, over time, to other areas. Higher land in these alluvial areas would continue to produce rich harvests.

'Outside of the urban areas, industry would protect its own facilities against major floods. Critical infrastructure, such as water and wastewater treatment plants, power plants, and major highways and bridges would be either elevated out of the flood's reach or protected against its ravages. Much of this infrastructure, as well as the homes, businesses, and agricultural activities located behind lower levees, would be insured against flooding through full participation in commercial or federally supported insurance programs.

'At the upstream end of many levees, federally built water-control structures would permit river waters to keep sloughs wet throughout the year maintaining and restoring aquatic habitat and resultant benefits for fisheries, waterfowl, and other wildlife. Levees would be modified to provide for controlled overtopping in the event of major high waters, eliminating the catastrophic failures that have occurred in the past.

'Some bottomland owners behind modified levees would choose to convert from row crops to alternative crops or silviculture or to return their lands to a natural state under federal or state easements. Owners would base their decisions on private and government analyses that found their land too wet for farming or in a location where levee protection was impossible to maintain.

'Upland of the floodplain, federal-state-tribal-local programs to improve the treatment of lands, control new runoff, and restore wetlands, would reduce the flows during frequent floods and shave the peaks off larger events. Both commercial and recreational vessels would continue to ply the river's waters, operating in a navigation system that would enhance riverine ecosystems through water-level adjustments and control.

'Modifications in river-control structures would continue to increase fisheries and wildlife habitat. Floodplain activity would be guided by broad-based plans of federal-state-tribal-local governments working together as partners in a streamlined floodplain management effort.

'Operation of the waterway and the levee systems, with their attendant environmental components, would be focused in a single agency that would collaborate with other interested agencies. Levees along main stem rivers and principal tributaries would be maintained on a cost-shared basis by the federal-state governments and local levee boards. Decisions concerning activities in and near the water would be vetted in computer models indicating the effects of such actions on other regions of the river basin. Forecasts of river conditions would reflect the availability of basin-wide data and the rapid processing of these data. Use of high technology remote sensing platforms and data-filled geographic information systems would provide highly accurate information on which to base key decisions for both planning and crisis management."

Source: Sharing the Challenge: Floodplain Management into the 21st Century, Report of the Interagency Floodplain Management Review Committee to the Administration Floodplain Management Task Force, May 26, 1994.

UMRCC Floodplain Statement

"During the spring and summer of 1993 the five Upper Mississippi River States of Minnesota, Wisconsin, Iowa, Illinois and Missouri were severely impacted by flooding along the Upper Mississippi River (UMR) and its tributaries. Record flood levels, damaging municipal and agricultural interests along the UMR, were reached at several gauging stations. Communities within the UMR floodplain were inundated with flood water for much of the summer; agricultural losses occurred when levees were breached allowing crops, homes, and buildings to be flooded. These losses could have been minimized if lessons taught by the UMR flood of 1973 had been heeded. To avoid future severe flood damage along the UMR, the Upper Mississippi River Conservation Committee (UMRCC) believes that a change in floodplain management philosophy must be initiated....

'The 1942 Corps of Engineers-Bureau of Reclamation's Pick Sloan Plan identified a way to reduce flood stages along the Missouri River by setting levees back in the river floodplain as much as 3,000 to 5,000 feet from the river. The UMRCC supports this approach to floodplain management and recommends this concept be adopted as levee systems are rebuilt.

'Natural resource agencies along the UMR are committed to a holistic river management concept commonly referred to as "ecosystem management". This management philosophy is consistent with, and in fact calls for, the relocation of levees further back from the floodway to allow annual floodplain inundation to occur. This management procedure emulates the pre-dam hydrography, thus benefiting fish and wildlife populations that have evolved and rely upon spring and fall floodplain inundation. Levee setback will increase flood storage capacity along the UMR's floodplain resulting in lower flood stages and less damage to urban areas....
The '93 flood benefitted the riverine environment by inundating the UMR floodplain through much of the summer and early fall providing increased spawning and nursery habitat for river fishes, as well as a source of food and nesting habitat for waterfowl and shore birds.

'The '93 flood created numerous scour holes which over time will develop wetland habitat characteristics. The UMRCC recommends that during post flood construction, consideration be given to preserving these areas.

'The UMRCC endorses the concept of buying out flood prone river communities and relocating them outside the floodplain. This action will benefit the river ecosystem as more floodplain acres are devoted to non-urban uses while reducing the long-term cost of flooding.

'In conjunction with reducing long-term costs of flooding, additional floodplain acreage will provide positive economic benefits through increased fish and wildlife habitat used by recreationists. Additionally, removing communities from the floodplain will increase floodplain flood storage capacity resulting in lower flood elevations.

'The UMRCC further endorses the Administration's effort to rethink current floodplain management policies by establishing an Interagency Floodplain Management Committee to review flood management directives and the formation of a Scientific Assessment and Strategy Team (SAST) to collect and analyze flood data. The UMRCC further recommends that the SAST be continued after their six month appointment expires....
The Flood of '93 has provided an opportunity for our Nation to review and rethink past floodplain philosophy. Hard lessons have been dealt to agricultural and municipal interests. It's time to heed them. The '93 flood benefitted the River's aquatic habitat and biota. The long-term fish and wildlife benefits associated with periodic inundation of the floodplain should be recognized as legitimate floodplain uses and restored to the extent practicable."

Source: Upper Mississippi River Conservation Committee Flood Plain Management and Post Flood 93 Recovery position statement. Adopted at the 50th Annual UMRCC

Meeting, La Crosse, WI, March 15-17. 1994.

Floodplain Erosion and Scour (Excerpt from Floodplain Management Review Committee Draft Report)

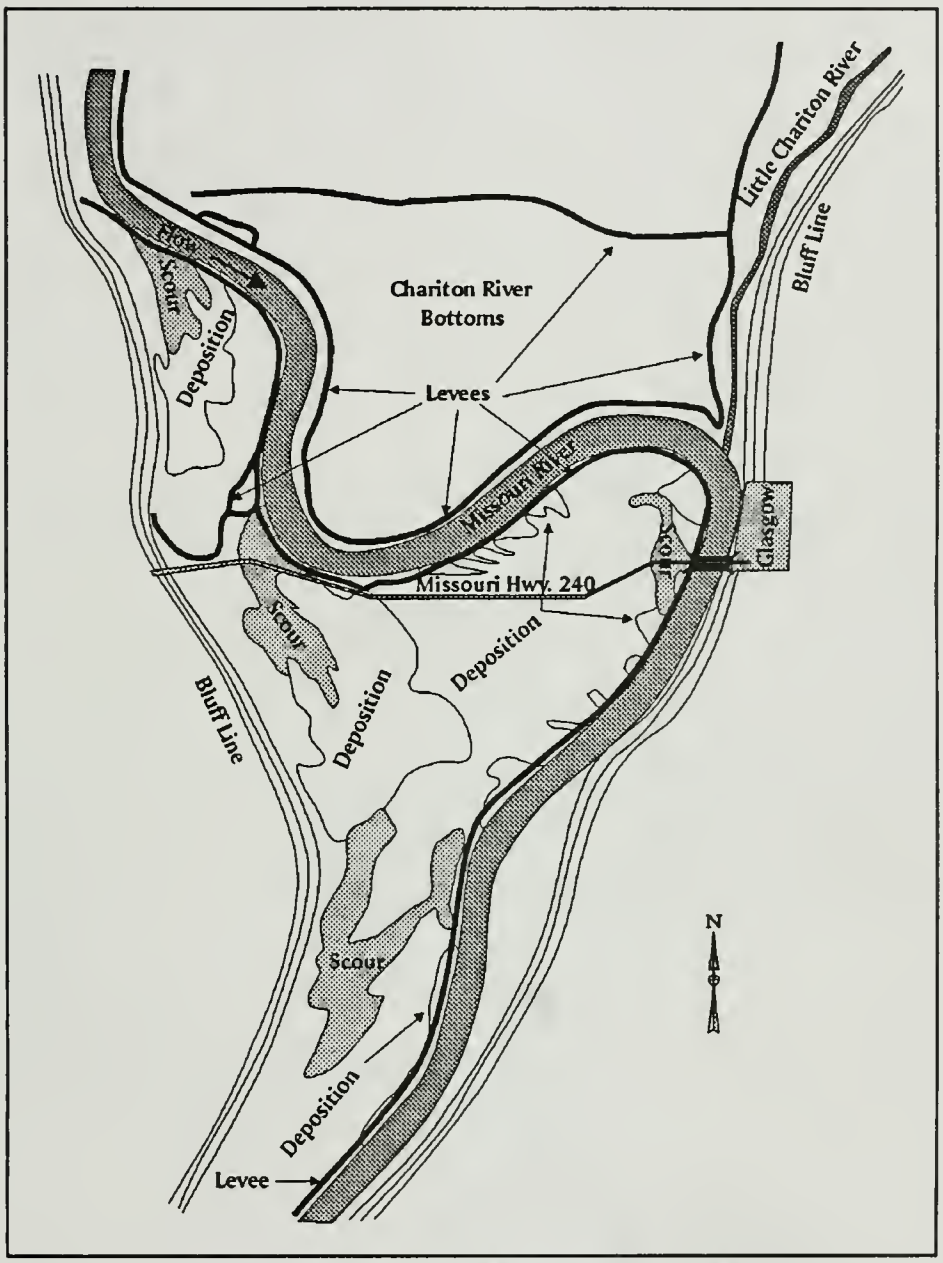
"...Significant floodplain erosion and deposition occurred during the 1993 flood, principally on floodplain agricultural lands along the Missouri River. Preliminary analyses of aerial photography, satellite imagery, and historic Missouri River floodplain maps reveal that more than 90 percent of the areas affected by significant erosion and deposition are associated with breached levees situated in active, high-energy floodplain zones. Review of the history of levee failures in this area shows levees have been breached repeatedly at sites of natural river cutoffs or chutes in the past three decades. Construction of levees across these high energy channels is a risky investment which has required repetitive repair. In most cases where levees breached, scour holes, locally known as blow holes or blue holes, occurred. These holes, typically 25 to 50 feet deep, are caused by scouring...(when)...the levee is overtopped or breached, releasing river water through the constricted levee breach with velocities similar to that of a dam break flood wave. This sudden release of energy scoured tremendous volumes of materials creating both new aquatic and terrestrial habitat.

'Erosion zones of scour and stripping can extend as far as one mile downstream from the larger breaches (See accompanying figure). Locally constricted floodflows in breaches through railway embankments and in the vicinity of railroad and highway bridges act in a similar manner...

'The Pick-Sloan plan authorized by Congress in 1944 called for the creation of a floodway between levees, ranging from 3,000 to 5,000 feet wide, along the Missouri River from Sioux City, Iowa, to the mouth near St. Louis, Missouri. The purpose of this floodway was to provide sufficient space for flood waters to pass and reduce potential damage to adjacent farmlands.

'For a number of reasons, this plan was never implemented. The Flood of 1993 demonstrated the need for some form of floodway to provide greater capacity to convey flood flows. Implementation of any future flood damage reduction plan should recognize that in lieu of a standard setback distance, the floodway should coincide with the natural high-energy zone of the river, which commonly is wide in areas of large meanders and narrow in straighter portions of the river.

'Conclusion: Levee location and height are factors in determining erosion and deposition in the floodplain. There are certain locations where levees should not be constructed. In these cases set back levees might allow normal river functions. Each situation needs to be evaluated on its own merits."



High Energy Erosion Zone of the Missouri River

Source: Sharing the Challenge: Floodplain Management into the 21st Century, Report of the Interagency Floodplain Management Review Committee to the Administration Floodplain Management Task Force, May 26, 1994.

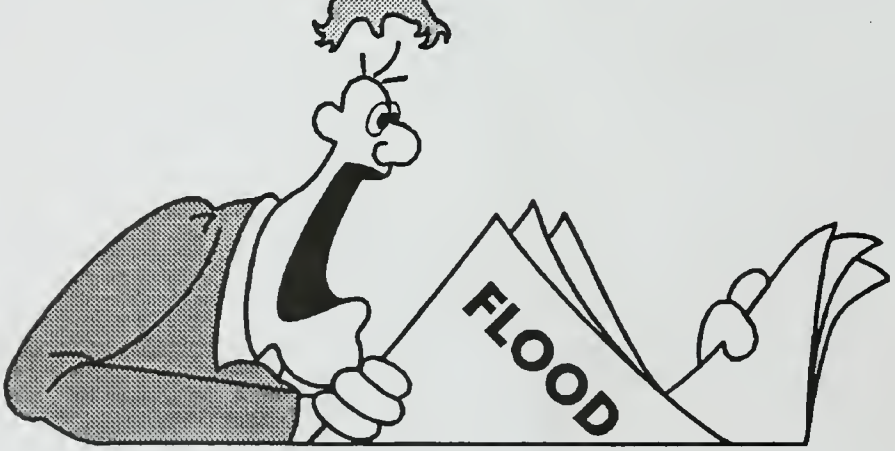
People, the Media, and the Federal Flood Response (Excerpt from Floodplain Management Review Committee Draft Report)

"Compassion plays a major role in the way people respond to disasters and rush to provide disaster relief. The speed with which the entire nation learns of disasters is almost immediate. For example, because of the television coverage of the 1989 World Series, those watching had the experience of actually being present during a major earthquake. As for the 1993 floods, the nation can remember pictures carried by CNN of the house being swept away when a levee was breached. Viewers were left wondering how this could happen, rather than why the house was there in the first place.

'The best media flood-relief stories became those of suffering people and those complaining about the lack of quick government assistance. Politicians and decision makers were bombarded with calls and they responded by declaring additional counties part of the disaster area and by promising quick relief. FEMA Disaster Field Offices (DFOs), set up in many cities and towns, were themselves flooded with applications for disaster relief. The media attention helped agencies get needed information to citizens, but may also have increased expectations about the level of assistance that was available or the speed at which help could be provided.

'Human compassion and the way news is reported influences how Congress and nation respond to disasters. A great push arose to replace levees along the Missouri River many of which should not be replaced without careful design and engineering consideration. If federal response to disaster relief is driven too much by an immediacy of the event, rather than by rational decision making, the effort to put everything back to the way it was may increase future risk rather than reaching long-term solutions to major problems.

'In the haste of some disaster relief and under the pressure of the media effect, the nation may have subsidized some bad decisions and penalized some good ones, foregoing opportunities for change. A caring, supportive approach for disaster victims must never be lost; but there must be, in tandem, an effort to ensure decision making that reflects long-term, as well as short term goals."



Source: Sharing the Challenge: Floodplain Management into the 21st Century, Report of the Interagency Floodplain Management Review Committee to the Administration Floodplain Management Task Force, May 26, 1994.

Missouri River Bank Stabilization and Navigation (Excerpt from Floodplain Management Review Committee Draft Report)

"Clearly, there is a relationship between the Missouri River Bank Stabilization and Navigation Project and the decline of habitat and ecosystems along that river. In recent years the USACE (U.S. Army Corps of Engineers) has made efforts to adjust operation of the system to better accommodate environmental concerns. Nevertheless, during the course of its review, the Committee encountered many individuals and several conservation agencies that believe the economic and social benefits derived from the project do not outweigh the environmental costs associated with it. The Committee reviewed benefit-cost calculations for the navigation component of the project prepared by the USACE Institute for Water Resources using the current Principles and Guidelines procedures for the reach of the river between Sioux City, Iowa and Kansas City. This analysis indicated that, using the existing procedures, there is a favorable ratio, even when navigation tonnage involving river operations and bank stabilization benefits are excluded. The Committee is also aware that the USACE is in the process of completing its multi-year study of the water control operations of the Missouri River mainstem reservoir system and is about to release a draft Environmental Impact Statement (EIS) covering the program of releases from the reservoirs and their relationship to the ecology of the river, navigation, hydropower, flood control, water supply and recreation. Discussions with the USACE indicate that the draft EIS will address many environmental

concerns. The 'Master Manual' review study is being conducted under a full public involvement process in accordance with NEPA. The Committee believes it would be appropriate for the USACE, after completion of the action on the Master Manual, to conduct an analysis of potential modifications to the structural components of the navigation system to determine what benefits can be obtained through these actions. It should also, under the recommended procedures for project review (Chapter 5), conduct an analysis, by reach, of the total benefits and costs of navigation operations on the Missouri River."

Source: Sharing the Challenge: Floodplain Management into the 21st Century, Report of the Interagency Floodplain Management Review Committee to the Administration Floodplain Management Task Force, May 26, 1994.

A Letter From the Floodplains

In April we received a letter from Richard S. Garst, President of the Atchison County, Missouri Levee District #1. Mr. Garst is one of our readers and requested that we include in this issue of "River Crossings" the text of a letter he had received from "a farm wife touched by the flood of 1993". That letter follows:

"Roots Don't Grow Deep in Wetlands"

"They want to move us all out and call this wetlands. They, meaning the faceless minority that seem to have all the power or at least the loudest voice. This land has only flooded twice in forty-one years. This house was here both times. My great-grandparents lived here during the first flood. My grandpa told me about it. He helped farm this place. He bought it at the sale when my great-grandparents both died. Great-grandma died of heart failure here in this house, when the doctor told her that her husband had died earlier that day.

'We moved to this house that year. I remember when I was in the first grade my dad picking me up at school to take me to my new home. I grew up here, and dad and grandpa farmed together. Some of my best memories are the times I spent with them. I spent my summers working in the field with dad.

'My father died in those fields. Less than a half mile from the home in a combine accident that shouldn't have happened, but it did. My grandpa and mother were his companions at death. God called him home and I came back here to my heaven on earth. You see, I married a farmer and we came back and took over the family farm.

'Farmers are not just businessmen, although that's part of it. Farming is a way of life, it is my life. My father's blood is in this soil, my grandparents' and great-grandparents' sweat and labor is in this house and land. My roots are here and they run deep, with four generations having farmed this ground. No, this land is not wetlands it is a family farm, my home and my life." – Joni Sapp, Rock Port

We are pleased to include Ms. Sapp's letter in this issue of "River Crossings". We fully understand and appreciate her attachment to the land, because many of us also came from rural and farm backgrounds.

The same kind of compassion and caring for the land and its ecosystems (expressed by Ms. Sapp) is what brought many of us into the business of land stewardship and ecosystem conservation. We aren't arguing that everyone should be driven from the floodplain. To the contrary, there is certainly a place for farming in the floodplains. But no one interest or activity should be promoted at the expense of everything else.

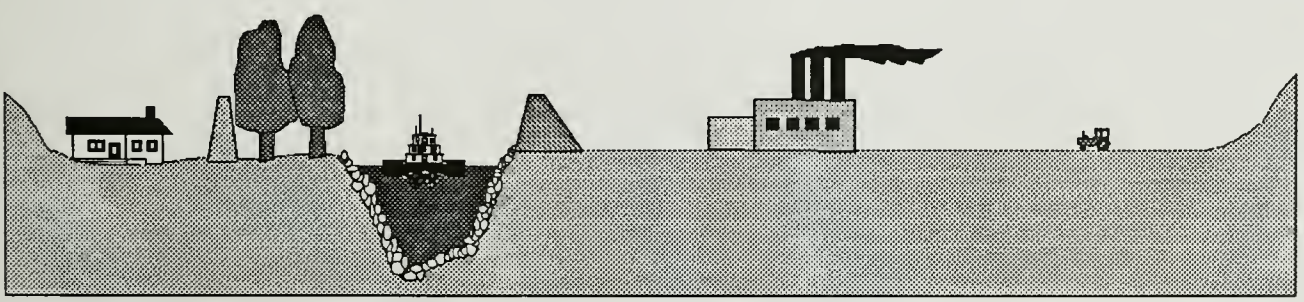
Unfortunately, everything else has been sacrificed in some river floodplains, and that is what put so many at risk during the 1993 floods. The river had no room to "breathe" and so it made room, and simply flooded those in the way.

Now that such a great disaster has reminded us all that the River is still in charge, despite our great efforts to control it, each floodplain activity or operation should be evaluated on a case by case basis through some form of "compatibility test".

Without a doubt, such a test would show that some operations would be best conducted elsewhere, leaving space for the "critters", room for the river to "breathe", and society with alot smaller disaster recovery bill.

Second Wetlands Reserve Sign-up Draws Record Response

Farmers and ranchers in 20 states offered 590,020 acres for enrollment in the Department of Agriculture's



Wetlands Reserve Program, nearly eight times the FY 1994 goal of 75,000 acres. Under the program, USDA pays landowners easement costs for acreage accepted in the program and provides financial assistance of not more than 75 percent of costs for approved wetlands restoration work. The pilot program in June 1992 was open to 9 states, with a goal to enroll 50,000 acres of wetlands. No enrollments were offered in 1993.

The USDA's Soil Conservation Service and the U.S. Fish and Wildlife Service will prepare preliminary wetland restoration plans for proposed properties. Offers were to be extended to landowners by May 31.

Source: Land Letter, May 1, 1994, Vol. 13, No. 13.

New Emergency Wetlands Reserve Program Begins

Landowners in the eight midwestern states affected by last summer's floods will also be eligible for a second Emergency Wetlands Reserve Program sign-up. The Soil Conservation Service will purchase easements to return cropland to wetlands to provide for natural floodplain protection, improved water quality and wildlife habitat. The first Emergency Wetlands Reserve Program sign-up returned 25,000 acres to wetlands in the Midwest. The second sign-up began April 1 and will conclude December 30.

Source: Land Letter, May 1, 1994, Vol. 13, No. 13

Urban River Restoration Bill

Eleanor Holmes Norton (D-DC) introduced the Urban Watershed Restoration Act of 1994 on February 22, the first such bill in U.S. history. The legislation, written as an amendment to the Clean Water Act, directs the Environmental Protection Agency (EPA) to dispense small grants to qualified grassroots groups to restore local streams and rivers across the country. The money will be allocated from existing funds in EPA programs addressing non-point source pollution.

- EPA must dedicate at least 25 percent of funds annually appropriated to the Clean Water Act non-point source authority to urban river restoration projects. Grants are capped at $500,000 to increase the number of grants that can be made.

- EPA will use ecological objectives as well as economic and community goals as criteria for making grants.

The Clinton Administration, while not endorsing the Norton measure, has promoted urban restoration in its recently released "green book," which includes its recommendations to Congress on Clean Water Act reauthorization. In addition the Senate Environment and Public Works Committee included provisions to bolster urban restoration efforts during its consideration of the reauthorization.

Source: American Rivers, Vol XXII, No. 1, Spring 199

Furse Introduces Stream Restoration Bill

Oregon Congresswoman Elizabeth Furse introduced her Waterways Restoration Bill on April 21 at a pre-Earth Day news conference. Furse's bill would give grants to local communities to restore their rivers and streams, create jobs in environmental restoration for at-risk youth, as well as create family-wage jobs – all without requiring any new funding.

Furse said this national legislation is designed to help restore areas that have been polluted by urban runoff,... as well as restore critical fish and wildlife habitat. "Waterways restoration is a cost-effective way to provide flood and pollution control, while ensuring habitat for fish and wildlife, and recreation opportunities for citizens", Furse said. She added that the bill is about environmental justice. "The federal government has historically overlooked low income and minority communities in awarding funding for watershed projects. My bill gives priority to projects in those areas."

"Local groups and agencies are responsible for proposing and designing a restoration plan that works for them, and then local residents do the work," Furse said. "As many as 10,000 jobs could be created with this bill." No new funds are needed for this legislation, rather 20% of the Soil Conservation Services existing Watershed Protection and Flood Prevention Program budget will be redirected for waterways restoration. Based on last year's figures, 20% would equal $35 million.

Joining in the news conference was Oregon Rep. Ron Wyden, Maitland Sharpe, Izaak Walton League of America; Judy Noritake, Pacific Rivers Council; Elbert Jenkins, Minority Environmental Assn; and Kathleen Selz, National Assn. of Service & Conservation Corps.

The bill will be referred to the Merchant Marine & Fisheries and Agriculture Committees.

House Public Works Clean Water Bill Draws Fire

The House Public Works Committee scheduled two hearings in late May on Clean Water Act reauthorization, after Chairman Norman Mineta's (D-CA) latest draft reauthorization bill failed to win the support of conservative committee members and angered environmental and industry groups. Introduced April 21 by Mineta and ranking Republican Sherwood Boehlert (R-NY), the bill contains new wetlands, runoff, mining and water quality provisions that would significantly alter the nation's principal water quality protection law.

Despite the bill's bipartisan introduction, many Republicans and a number of conservative Democrats are opposed to it. For the first time in this debate, committee Republicans have offered their own comprehensive reauthorization bill, which they are expected to propose as a substitute during the yet unscheduled mark-up. But the bill also is supported by a number of Democrats on the committee.

While the Republican bill is based on H.R. 3948, its wetlands provisions were lifted straight out of Rep. Jimmy Hayes (D-LA) industry-supported H.R. 1330, and it includes language developed by state and local governments seeking more control over the administration and enforcement of clean water regulations. The bill also includes a provision on "adequately funded mandates" that requires EPA to analyze the costs of complying with its regulations and the availability of federal and other funding sources. If estimated federal funding is less than 90 percent of estimated costs, EPA must report to Congress on the reasons for and consequences of such a shortfall.

Mineta told environmentalists last month that he didn't have the votes to get a strong environmental bill through his committee. The resulting Mineta compromise, aimed at picking up conservative Democrat and Republican support, upset both environmentalists and industry. The bill proposes "a sliding scale ranking scheme" by weakening the requirement to avoid damage to wetlands if they are deemed to have low value, said Clark Williams of the National Audubon Society. It authorizes general permits for categories of waters such as Nationwide Permit 26, which has allowed the destruction of thousands of isolated and headwaters wetlands, he said. Environmentalists also oppose its one-sided administrative appeals process and new exemptions for cranberry farming and other agricultural activities. Another provision would allow state and local governments to develop wetlands conservation plans to which the Corps of Engineers would be required to defer, Williams said.

Despite the environmental groups' opposition, industry groups aren't lining up to support the bill either. They are calling for a streamlined section 404 permitting process, a stricter definition of wetlands, additional agricultural exemptions, looser restrictions on mitigation banking, special exemptions for Alaska, and a greater role for state and local governments.

Mineta's bill also contains provisions that borrow heavily from H.R. 322, the House-passed mining law reform bill. Under the bill, no mining permits could be issued for operations that contaminate groundwater at any levels exceeding naturally occurring contaminant levels. The American Mining Congress (AMC) said H.R. 3948 would effectively ban exploration and mining of metallic minerals in the United States.

The Mineta bill has angered so many interests, it is viewed by many as a political blunder. The full Senate is expected to act on a clean water reauthorization bill the week of June 6. The Senate Environment Committee approved the bill, now numbered S. 2093, in February.

Source: Land Letter, May 20, 1994, Vol. 13, No. 15

Takings Amendment Attached To Drinking Water Bill

The Senate voted overwhelmingly May 19 to reauthorize the Safe Drinking Water Act after tacking on a controversial "takings" amendment. The Senate adopted, without a roll call vote, a scaled-back version of Minority Leader Bob Dole's (R-KS) takings amendment that is an outgrowth of a 1988 executive order signed by President Reagan. The order requires federal agencies to conduct takings impact assessments when the federal government undertakes proposed actions regulating private property.

The approved amendment requires most federal agencies to "complete a private property takings impact analysis before issuing or promulgating any policy, regulation, proposed legislation, or related agency action which is likely to result in a taking of private property." The original Dole amendment was modified by an amendment by Sen. Dale Bumpers (D-AR) that dropped any "diminution or use or value of private property" as a cause for doing a takings analysis. Bumpers said his modification "essentially codifies existing law" but allows for exemptions for certain military and law enforcement activities, health and safety emergencies, and planning activities. The Senate approved similar takings language twice in 1991 that was blocked by the House.

Source: Land Letter, May 20, 1994, Vol. 13, No. 15

Fish and Wildlife Service Developing Ecosystem Management Approach

An ecosystem approach to fish and wildlife conservation means protecting or restoring the function, structure, and species composition of an ecosystem, while providing for its sustainable socioeconomic use. The Fish and Wildlife Service will increase its efforts to think and act in terms of systems, relationships and processes and recognize that, in some way, all

things are connected. For example, there is a link between midwestern cropping practices and fisheries productivity in the Gulf of Mexico--erosion and sedimentation contribute directly to riverine sediments and the process of marsh accretion which is vital to the maintenance of coastal marshes, the nursery ground for many fish species.

Biological systems are dynamic and ever changing, and the Service plans to address all species as components of the system within which they are

found. Plant and animal populations are inseparable from their environment and their relationships with each other. Humans play a pivotal role in ecosystem dynamics, and they will play an increasingly important role in sustaining ecosystem processes and health.

Effectively implementing an ecosystem approach means recognizing that the Service is just one member of a very diverse management team. The Service therefore plans to work consistently and closely in partnership with all who share responsibility for ecosystem health: other Federal agencies, States, Tribes, communities, corporate and individual landowners, and various organizations. The ecological integrity of National Wildlife Refuges depends on the actions and management practices of neighboring public and private landowners. Endangered and migratory species use lands beyond those specifically established to provide for their conservation and management. Many Federal agencies, the States, and the private sector all have authorities, responsibilities and interests that affect the future of natural resources.

An ecosystem approach needs the full support of all the appropriate cooperators in a given area. Without strong partnerships, independent initiatives will continue to be disjointed, competitive, and ineffective. An ecosystem approach can help bring divergent interests together to seek common solutions. Addressing species' needs requires assessing habitat requirements, harvest levels, reintroduction priorities, migration patterns, and other concerns, all of which must be factored into ecosystem goal setting.

The resource needs and the solutions to be implemented will vary widely from ecosystem to ecosystem, and the Service's role will be highly variable from one ecosystem to the next--ranging from leader to catalyst to worker to minor participant. An ecosystem approach can serve to unify diverse programs towards the common goal of restoring and protecting trust resources and the ecological processes that sustain them. Through an integrated ecosystem approach, the Service, with its partners, hopes to protect and restore fish and wildlife habitats through holistic management strategies using a wide variety of tools and techniques.

Forest Service Announces Grazing Reform

The Forest Service released its proposals April 25 for rangeland management and grazing fees on national forests and grasslands in an effort to bring its policies in line with a similar reform initiative by the Bureau of Land Management (BLM). The BLM and Forest Service proposals were printed, respectively, in the March 25 and April 28 Federal Register. Comments on both the BLM and Forest Service plans are due July 28.

The first of two separate rules proposed by the Forest Service would place greater emphasis on the stewardship of rangeland resources, clarify planning and decision making processes, provide more consistency between Forest Service and BLM regulations, and improve administration of grazing permits. The proposal also seeks to clarify the link between grazing permits and forest land management plans.

The second proposed rule would change the grazing fee system for Western states to coordinate with the BLM plan. Grazing fees would be set at $3.96 per animal unit month (AUM) phased in over three years. An AUM is the amount of forage needed to sustain a cow and calf, one horse, or five sheep or goats for a month. The national grasslands, which currently have a different fee than the national forests, would be brought into the new system. The Agriculture and Interior departments will devise cooperatively an incentive-based grazing program that could allow a 30 percent discount in the grazing fee, depending on whether the permit holder's rangeland record meets environmental standards.

Current regulations dealing with water rights, range improvements, and standards and guidelines would remain essentially unchanged by the Forest Service plan. Rather than performing costly and time-consuming reviews of NEPA compliance for each grazing allotment, the Forest Service will establish what it calls regional planning districts. Each district plan

would be reviewable under NEPA, but individual allotments would not.

The move comes at a time when environmental groups are seeking injunctive relief to block grazing activities on a number of Forest Service lands. Early reports of the reform plan did not explain exactly how the regional planning districts would work or whether they could result in fewer suits.

Unlike the BLM plan, the Forest Service proposals do not include the controversial grazing advisory boards that have so angered ranching communities. Designed to allow for community based management of rangelands, the BLM advisory boards have come under fire for allowing environmentalists, non-ranching interests and even non-residents to serve as members.

Source: Land Letter, May 1,1994, Vol. 13, No. 13

Watershed Protection Techniques

The Center For Watershed Protection has launched a new publication, Watershed Protection Techniques. According to Hal Wise, Editor of Nonpoint Source, News-Notes it promises to set the standard for some time to come.

The publication is billed as "a quarterly bulletin on urban watershed restoration and protection tools," and has four sections: feature articles, an "Open Forum" on a selected subject, lots of Technical Notes–the "heart" of the publication–and, finally, a resource section, which describes current books, journals, workshops, and courses.

The Editor is Tom Schueler who was long associated with the Metropolitan Washington Council of Governments and is the principal author of their highly acclaimed Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs. The Publisher is Harvey Olem, Ph.D., P.E., president of the Center for Watershed Protection and formerly president of the Terrene Institute.

Single issues are priced at $14. Subscriptions per year (4 issues) are individuals, $34; students, $18; and organizations, $54. Subscription orders should be sent to Watershed Protection Techniques, Suite 205, 1020 Elden Street, Herndon, VA 22070.

Source: Nonpoint Source News-Notes, March/April 1994, #35

Greenway Benefits Bottom Line

Would you invest in a business whose customer base, for a decade, has grown 62% per year and whose current revenues exceed expenditures by 58%? Such a "business" is Maryland's North Central Rail Trail (NCRT), a 20-mile corridor through Baltimore County.

Analysis of the benefits of the NCRT by the Maryland Greenways Commission showed:

- Use of the trail increased from 10,000 visitors in 1984 to 450,000 in 1993.
- Tax revenues related to NCRT in 1993 exceeded state expenditures for administration and management, $303,750 to $191,893.
- NCRT supports about 264 jobs statewide, and goods purchased in 1993 for uses related to NCRT were valued at over $3.38 million.

In a poll of trail users the Greenways Commission found that over 98% of respondents felt safe when using the trail, 66% preferred greenways to traditional parks, and over 95% felt the trail was an asset to the community. Nearly two-thirds of respondents said they felt the trail enhanced nearby property values. Economic benefits of the greenway don't stop with recreationally oriented uses. MCI Communications has offered the state $200,000 for a non-exclusive, perpetual right to use 7.6 miles of the corridor for fiber-optics routing.

For a full report, contact the Maryland Greenways Commission at (410) 974-3589.

Source: Common Ground Vol. 5, No. 4, May/June 1994

Pulliam Named to Head NBS

Interior Secretary Bruce Babbit announced on May 2 the appointment of Dr. H. Ronald Pulliam, a University of Georgia professor, as Director of the National Biological Survey (NBS).

Pulliam, 48, has been serving as Director and Professor of the Institute of Ecology at the University of Georgia, in Athens. Prior to that (1984), Pulliam served as an Associate Professor in the University of Georgia's Department of Zoology.

Pulliam has written and published several books, and is a member of numerous professional organizations and advisory boards, including serving as president (1991-92) and vice president (1986-87) of the Ecological Society of America. He also served as president of the Southeastern University Research Association (1990-91)

A native of Miami Beach, Florida, Pulliam received his formal training at the University of Georgia (B.S., 1968), Duke University (Ph.D. 1970), and postdoctoral studies at the University of Chicago (1970-71).

Freshwater Species Most Endangered

The threat of extinction hangs over the heads of a far greater proportion of America's freshwater fish and shellfish populations than of its birds and mammals, according to a May 2 report by the Environmental Defense Fund. "The Big Kill: Declining Biodiversity in America's Lakes and Rivers," describes a dramatic decline among fish, shellfish and other aquatic organisms resulting from dams, levees, municipal and industrial pollution, overharvest, and introduction of non-native species. Ten case studies outline the potential for creative solutions to problems

affecting aquatic biodiversity.

Copies of the 275-page report are available for $20 from the Environmental Defense Fund, 1875 Connecticut Avenue, NW, Washington, DC, 20009.

Source: Land Letter, May 20, 1994, Vol. 13, No. 13

Topeka Shiner Update

Recent information on the Topeka shiner (***Notropis topeka***) indicates that this species may be more threatened than previously believed. The species is presently restricted to a few localities in Missouri, Kansas, Minnesota, and possibly Iowa.

In the last Annual Notice of Review under the Endangered Species Act, the U.S. Fish & Wildlife Service (Service) recommended elevating the candidate status of the shiner from C-2 to C-1 and listing it as an endangered species. Status of that recommendation is not known.

Meanwhile, Vernon Tabor of the Service's Manhattan Field Office (Kansas) and Paul McKenzie of the Columbia, Missouri Field Office recently conducted Topeka shiner surveys in southeastern and northwestern Iowa, where the fish had been reported within the last 20 years. Not only did Tabor and McKenzie not find the species, but some sites are now impounded (southeastern Iowa) or are completely degraded due to deposition of silt up to 3.5 ft. deep.

Tabor also surveyed sites in the Middle Creek watershed of Kansas, near the historical center of abundance, and where approximately 5 extant sites existed a few years ago, and was unsuccessful in locating a single specimen!

Recent surveys in Missouri (1992) indicate that the species has also exhibited significant declines there. Dr. William Pflieger (Missouri Department of Conservation, pers. comm. June 1994) believes that the Topeka shiner may be declining for reasons other than habitat alteration. Pflieger hypothesized that the Topeka shiners may be competitively excluded from certain areas (e.g., Perche Creek in Boone County, MO where the shiner has disappeared) by the Blackstripe topminnow (*Fundulus notatus*), which is now found in areas where it did not formerly occur.

Interestingly, Tabor's surveys in the Middle Creek watershed in Kansas, also included the blackstripe topminnow in areas where the Topeka shiner was absent. For whatever reason, this fish has drastically declined, and immediate measures are needed to reverse the downward trend.

On another front, the Manhattan, Kansas Field Office recently issued the U.S. Army Corps of Engineers (USACE) a jeopardy biological opinion on the Neosho madtom (*Noturus placidus*) regarding cumulative impacts of several PL 566 (impoundment) projects within the Neosho and Cottonwood River watersheds. The USACE concluded that the construction of 157 projects would "not reduce flows enough on the mainstem rivers to have an affect on the madtom's suspected reproductive requirements" and that the "physical control of the watersheds cumulatively is insignificant when compared to the drainage area of the entire basin." Based on these statements, one has to wonder why the "flood control" project is then being built!

The USACE further concluded "that issuance of the requested permits in both the Cottonwood and Upper Neosho River Basins would not individually or cumulatively result in any adverse impacts to the Neosho Madtom, or its habitat." The USACE responded (letter dated May 18, 1994 from Colonel Richard Goring of USACE to the Manhattan, Kansas Field Office) by disagreeing with the Service's "jeopardy" conclusions, and therefore apparently refusing to implement Service recommendations. This could place the USACE in violation of Section 9 of the Endangered Species Act. The USFWS is in the process of drafting an answer to the USACE correspondence.

Interestingly, the Topeka shiner will probably be more impacted by the PL 566 dam construction projects than the Neosho madtom.

Biodiversity Protection and Southern Appalachia

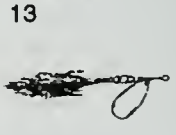
Continued subsidized logging and road-building in national forests in Southern Appalachia and the lack of region-wide land management planning threaten to erode biodiversity in the region, according to a recent Wilderness Society report. Although national forests and parks comprise only 16 percent of the 24 million-acre region, they offer the best hope for conserving biodiversity, the report says. "Sustaining Biodiversity in the Southern Appalachians" is the fourth of the Living Landscape reports produced by the Society. It is available for a nominal charge from The Wilderness Society, 900 17th Street, NW, Washington, DC, 20006-2596 or by calling 202/833-2300.

Source: Land Letter, May 20, 1994, Vol. 13, No. 13

Agricultural Runoff Examined

A new report by Trout Unlimited, the Rodale Institute, and the National Academy of Sciences entitled, "The Invisible Menace: Agricultural Polluted Runoff in Our Nation's Streams," focuses on the impact of polluted agricultural runoff on aquatic ecosystems and discusses alternative farming practices. Copies are available from: Trout Unlimited, 1500 Wilson Blvd., Suite 310, Arlington, VA, 22209-2310.

Source: Land Letter, May 20, 1994, Vol. 13, No. 13



June 26-29: "Effects of Human-Induced Changes on Hydrologic Systems", Jackson Hole, WY. Contact: David L. Naftz, General Chairperson, U.S. Geological Survey, 1745 West 1700 South, Rm. 1016, Admin. Bldg., Salt Lake City, UT 84104. (801) 975-3389.

July 12-15, International Large Rivers Conference - Sustaining the Ecological Integrity of Large Floodplain Rivers: Application of Ecological Knowledge to River Management, La Crosse, WI. Contact: Ken Lubinski, National Biological Survey, Environmental Management Technical Center, Onalaska, WI 54650. (608) 783-7550, Ext. 61.

July 18-19, Applying Ecological Integrity to the Management of the Upper Mississippi River System, La Crosse, WI. Contact: Ken Lubinski, National Biological Survey, Environmental Management Technical Center, Onalaska, WI 54650. (608) 783-7550, Ext. 61.

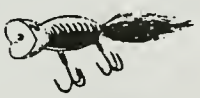
August 3-6: Sixth International Symposium On Regulated Streams (SISORS II). The University of South Bohemia, Ceske Budejovice, Czech Republic. SISORS II is the sixth in an on-going series of International Symposia devoted to scientific research of rivers modified by large dams, weirs, channelization and flow diversion schemes. Contact: Professor G.E. Petts, Department of Geography, University of Technology, Loughborough, Leicestershire, LEll 3TU, UK.(Fax: 509 262192), or Dr. K. Prach, Faculty of Biological Sciences, Jihoceska Univerzita, Branisovska 31, 37005, CESKE BUDEJOVICE, Czech Republic. (Fax: 038 45985).

August 7-10: "Agroforestry and Sustainable Systems Symposium", Fort Collins, CO. Contact: Kim Isaacson, USDA Forest Service, Rocky Mountain Research Station, Center for Semiarid Agroforestry, East Campus-UNL, Lincoln, NE 68583-0822. (402) 437-5178 ext. 13. FAX: 437-5712. Focus: how trees, integrated into sustainable agricultural land-use systems in the semiarid west, will enhance agricultural productivity, natural resource conservation, and natural and human environments.

August 7-12: "Stormwater NPDES Related Monitoring Needs", Crested Butte, CO. Contact: Barbara Hickernell, Environmental Foundation, 345 East 47th Street, New York, NY 10017. (212) 705-7837. FAX: 705-7441. Cosponsored by ASCE Urban Water Resources Research Council American Public Works Association, U.S. EPA, and USGS.

August 21-25: 124th American Fisheries Society Annual Meeting, "Managing Now for the 21st Century: Food, Recreation, Diversity." Sheraton Hotel and World Trade Centre, Halifax, Nova Scotia. Contact Paul Brouha, AFS, 5410 Grosvenor Lane, Suite 110, Bethesda, MD 20814-2199, (301) 897-8616, Fax (301) 897-8096.

November 14-16: Watershed WISE: A Workshop on Watershed Ecology. Grand Junction Hilton, Grand Junction, CO. The workshop is designed to encourage and support practical and effective approaches to watershed stewardship, and to share experiences and exchange ideas, tools, technology, philosophy and values useful to Watershed initiatives. Contact: Thorne Ecological Institute, 5398 Manhattan Circle, Suite 120, Boulder, CO 80303, (303) 499-3647, FAX (303) 499-8340



Congressional Action Pertinent to the Mississippi River Basin

Agriculture

H.R. 4416 (Peterson, D-MN) amends the Food Security Act to reauthorize the Conservation Reserve Program (CRP).

S. 1970 Senate approved on April 13 **S. 1970**, the Agriculture Department reorganization bill that creates a Natural Resources Conservation Service and authorizes the closure of more than 1,000 department field offices.

On April 14, a Senate Agriculture panel held a hearing on the effectiveness of federal ecosystem management.

Fish and Wildlife

H.R. 2500 (Gunderson R-WI) The House Merchant Marine fisheries management panel held a hearing April 20 on **H.R. 2500**, which seeks to develop a federal strategy to manage interjurisdictional fisheries in the Mississippi River Basin.

H.R. 3664 (Minge, D-MN) directs Interior Department to convey New London National Fish Hatchery production facility to the state of Minnesota (approved by House on March 21).

S. 476 (P.L. 103-232) President Clinton signed on April 11 reauthorizing the National Fish and Wildlife Foundation, authorizing the transfer of the Senacaville Fish Hatchery to the state of Ohio, and authorizing establishment of a 7,000-acre wetlands research center in Brownsville, Texas.

H.R. 4082 (Lambert, D-AR) requires the interior secretary to convey the William H. Donham State Fish Hatchery to the state of Arkansas.

Forests

H.R. 1164 House Natural Resources national parks panel held a hearing May 5 on **H.R. 1164**, the Forest Biodiversity and Clear-cutting Prohibition Act.

Land Conservation

H.R. 4213 (Richardson, D-NM) amends the Land and Water Conservation Fund Act to authorize establishment of a national registry of rivers and watersheds to be restored and protected.

Parks

S. 471 Senate Energy Committee held hearings May 5 on **S. 471**, which establishes a new area study process for proposed additions to the National Park System.

S. 1980 (Johnston, D-LA) establishes the Cane River Creole National Historic Park and the Cane River National Heritage Area in Louisiana. Senate hearings concluded on April 21.

H.R. 4333 (Skaggs, D-CO) designates 240,650 acres in the Rocky Mountain National Park as wilderness.

Public Lands

H.R. 1181 On April 28, the House Natural Resources national parks panel held a hearing on **H.R. 1181**, which increases federal payments in lieu of taxes to local governments

S. 455. On April 13, the Senate approved increasing federal payments in lieu of taxes to local governments.

H.R. 4155 (Richardson, D-NM) provides for the management of federal lands in a manner that does not undermine or frustrate traditional Native American religions or religious practices.

H.R. 4157 (Thomas, R-WY) authorizes the transfer of the lands managed by the Bureau of Land Management to the states in which they are located.

The Senate Energy Committee held a hearing April 20 to examine the Department of Interior's proposed rule to reform the livestock grazing regulations and to review **S. 1326** (Campbell, D-Co), a rancher-backed reform bill, and **S. 896** (Metzenbaum, D-OH), an environmentalist-backed reform bill.

Recreation

H.R. 4038 (Zimmer, R-NJ) directs the Fish and Wildlife Service to conduct a study of the feasibility of a national angler's license.

H.R. 4403 (Emerson, R-MO) rescinds the fee required for the use of Army Corps of Engineers public recreation areas.

Takings

S. 2006 (Dole, R-KS) requires federal agencies to conduct takings impact assessments when promulgating any agency policy, regulation, guideline or recommending legislative proposals to Congress.

Water Quality

On March 22, a House Merchant Marine panel held a hearing on pending Clean Water Act legislation.

S. 1985 (Brown, R-CO) amends the Clean Water Act to provide for the use of biological monitoring and whole effluent toxicity tests in connection with publicly owned treatment plants.

Water and Wetlands

H.R. 2199 The House Merchant Marine Committee held a hearing March 15. The bill proposes to tax fertilizer, industrial dischargers and other water pollution sources to pay for clean-up.

The House Agriculture Committee held a hearing March 23 to review the impact of wetlands and non-point source pollution regulations on agricultural lands.

H.R. 4289 (Furse, D-OR) amends the Watershed Protection and Flood Prevention Act to establish a waterways restoration program.

H.R. 4308 (Dingell, D-MI) amends the North American Wetlands Conservation Act to authorize appropriations for allocations for wetlands conservation projects.

H.R. 4314 (Lambert, D-AR) reauthorizes the Safe Drinking Water Act.

H.R. 4347 (Smith, R-MI) amends title XII of the Food Security Act to permit the conversion of wetlands that are 1 acre or less in size.

S. 2093 (Baucus, D-MT) a synthesis of his earlier **S. 1114** and **S. 1304**, the bill amends and reauthorizes the Clean Water Act.

H.R. 4363 (Johnson, D-SD) authorizes construction of and assistance to the Lewis and Clark Rural Water System (Missouri River).

Wilderness

H.R. 2473 The House Natural Resources Committee approved the Montana wilderness bill, on March 23.

H.R. 2638 On May 4, a House Agriculture and a Merchant Marine panel held a joint hearing on **H.R. 2638**, the Northern Rockies Ecosystem Protection Act.

Source: Land Letter, April 15, 1994, Vol. 13, No. 11 and May 15. 1994, Vol. 13, No. 14

Mississippi Interstate Cooperative Resource Agreement
608 East Cherry
Columbia, MO 65201

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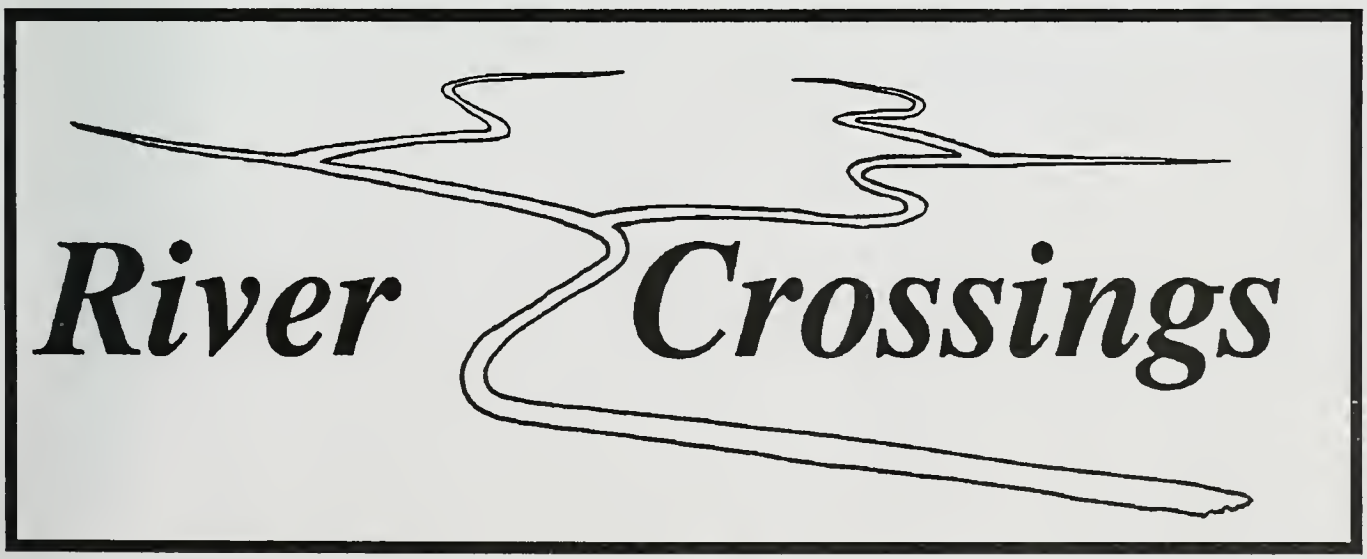

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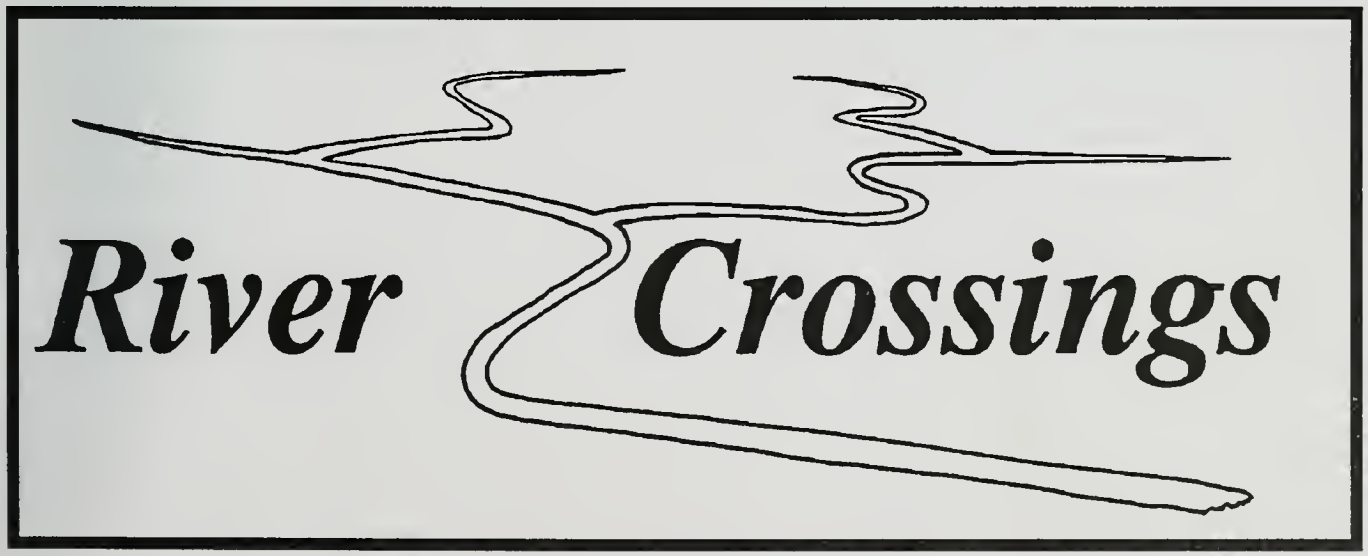


River Crossings

Volume 3 July/August 1994 Number 4

Most Endangered Rivers of 1994

American Rivers announced its list of the continent's most endangered and threatened rivers of 1994 on April 19th. The endangered rivers announcement, and a 50 page report, highlight serious environmental threats to 30 of North America's rivers and streams and provide a snapshot of the state of our rivers. Ten of the rivers are classified as endangered, while twenty are termed as threatened. The rivers on this year's list flow through 32 U.S. states, plus Washington, D.C., Canada, and Mexico. Three of the rivers listed as endangered, the Clarks Fork, Mississippi, and Missouri are in the Mississippi River Basin.

American Rivers

"Our rivers, contrary to popular belief, are in terrible shape," American Rivers President Kevin Coyle said in releasing the endangered rivers report at a heavily attended national news conference in Washington, D.C.

"Rivers are the circulatory system of all our major ecosystems, and we need healthy rivers in nature to keep fish and wildlife species alive. In addition, rivers are the major contributors to our freshwater supply. To the extent that we destroy them, we are cutting off our own source of freshwater," he said.

Topping this year's endangered list is the Clarks Fork of the Yellowstone River, which flows through Montana and Wyoming. The river is imperilled by a proposed gold mine two-and-a-half miles from Yellowstone National Park that would create a perpetual risk of acid mine pollution and endanger the Clarks Fork. The planned mine and 74-acre toxic impoundment threaten the Greater Yellowstone ecosystem. In order to contain the millions of tons of acid generating waste created by the mine, Crown Butte Mines, Inc., owned completely by Canadian companies, plans to construct a 90-foot high dam and a 74-acre storage reservoir.

Other endangered rivers include:

- Anacostia River (Washington, D.C./MD): Within walking distance of the nation's capital, the Anacostia River typifies the state of our nation's urban rivers degraded by toxic chemicals, untreated sewage and other pollutants. Congress will consider legislation to toughen the Clean Water Act and to create an urban river restoration program this year.

- Clavey River (CA): The last intact wild river in the Sierras, the Clavey is endangered by five expensive and unnecessary dams that would eliminate 99 percent of the river's

INSIDE THIS ISSUE

flows. A draft environmental review of the dams will be released in June, while a legislative proposal to protect this river under the Wild and Scenic Rivers Act will be introduced in this Congress.

• Columbia/Snake River System (WA/OR/ID): The Columbia/Snake River system is burdened by numerous hydropower dams, the principal cause of the disastrous decline of this once great salmon fishery. Irrigation diversions, old dams without fish passage, and poor forestry management contribute to the decline in key tributaries, the White Salmon and the Yakima.

• Mississippi River: Despite the greatest flood of this century, the Mississippi continues to be over-engineered by the Corps of Engineers. The Corps continues to rely on environmentally damaging structural flood control solutions and now wants to spend billions more to expand the navigation system and turn hundreds of other rivers into lifeless, concrete ditches.

• Missouri River: After 50 years of environmental destruction by the Corps of Engineers, the Missouri barely resembles the river that Lewis and Clark explored. Unless the Corps changes the way it operates the river's mainstem dams, many of the native fish species of the Missouri will be lost forever.

• Penobscot River (ME): The Penobscot is threatened by a proposed new dam that would cut in half the chance of successful Atlantic salmon restoration by preventing fish from reaching spawning areas. The State of Maine has approved the project, which is now pending before the FERC for environmental review.

• Rio Grande/Rio Bravo (CO/NM/TX/Mexico): The nation's Most Endangered River of 1993, the Rio Grande received long overdue attention as a result of the North American Free Trade Agreement (NAFTA). But promises made during the NAFTA debate are yet to be fulfilled; sufficient funding is not available to clean up pollution along the US.-Mexico border.

• Thorne River (AK): The Thorne River, located at the southern end of the Alaskan Rainforest, may be destroyed by logging practices that ruin wildlife habitat, fill the river with silt, and choke prime salmon habitat. The future of at least one long-term logging contract that adversely affects management of the Tongass National Forest will be decided soon.

• Virgin River (UT/AZ/NV): The Virgin River is threatened by competing demands for its water from three growing Southwestern states, while endangered fish continue to decline. Utah interests are pursuing numerous dam proposals; thirsty Las Vegas is planning a pipeline.

Source: American Rivers, Vol. XXII, No.2., Summer 1994.

Sustaining Ecological Integrity of Large Floodplain Rivers: Conference Synthesis

An international conference and workshop titled, "*Sustaining the Ecological Integrity of Large Floodplain Rivers: Application of Ecological Knowledge to River Management*" was held in La Crosse, WI on July 12-19. The Conference and Workshop was hosted by the Environmental Management Technical Center of the National Biological Survey (NBS), and co-sponsored by the President's Council on Sustainable Development (PCSD) along with several other agencies.

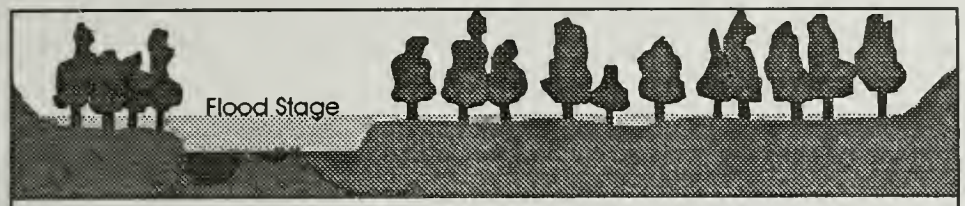
Secretary Babbitt called for a new approach to the Mississippi River, one that is more environmentally sensitive and better recognizes the consequences of people's actions.

River Crossings

Published by

Mississippi Interstate Cooperative Resource Association (MICRA)
608 East Cherry
Columbia, MO 65201

River Crossings is a mechanism for communication, information transfer, and coordination between agencies, groups and persons responsible for and/or interested in preserving and protecting the aquatic resources of the Mississippi River Drainage Basin through improved communication and management. Information provided by the newsletter, or opinions expressed in it by contributing authors are provided in the spirit of "open communication", and do not necessarily reflect the position of MICRA or any of its member States or Entities. Any comments related to "River Crossings" should be directed to the MICRA Chairman.



Natural floodplains experience a periodic "flood pulse", providing for diverse habitats, biodiversity, native species, natural flows and sediment movements, and compatible agricultural and developmental uses.

The Conference and Workshop attracted Secretary of the Interior Bruce Babbitt as well as river ecologists from all over the world to address the current state of our large floodplain rivers and what should be done to sustain their long-term ecological integrity. "We're learning to live more lightly on the landscape", Babbitt said.

Babbitt read from and praised the Interagency Floodplain Management Review Committee Report (Galloway Report), saying that new approaches must consider all consequences of people's actions. The Galloway Report was summarized in the last issue, Vol. 3, No. 3 of *River Crossings*.

According to an article in the La Crosse Tribune (July 20, 1994), Babbitt told reporters after his 30-minute speech that "The most important thing we need to do is to get everybody together and assess all of these questions about river management with an eye toward all of the consequences".

"In the past, what we've done is we have a lock and dam program, a dredging program, a levee-building program, an agriculture program, and a wildlife reserve program, he said, but they're all done on an ad hoc basis. I just think we're now at the point where we need to look at the entire river system and say what you do with the river in Minnesota has consequences in Louisiana."

Babbitt announced his Department's continuing commitment to collecting, analyzing, and using scientific data in the Upper Mississippi, Lower Missouri and Illinois River systems that were dramatically affected by flooding in 1993.

The Federal government's initial response to the flooding included a multi-agency effort to collect and map ecological information for the affected areas.

"Ultimately," Babbitt said, "we must use and build on the information collected to more effectively deal with the many issues related to the flood, adequately address conservation and resource issues in the regions, and to ensure better preparation for future flood occurrences and other dramatic natural events in these areas."

The National Biological Survey is prepared to work with the U.S. Geological Survey, the Fish and Wildlife Service, the Army Corps of Engineers, States and others in the area to build on what has been accomplished and provide a wealth of biological information to an array of Federal, State and local agencies that will be making decisions about future activities in the flood zones.

Responsibility for the NBS role in this overall partnership will be shared by:

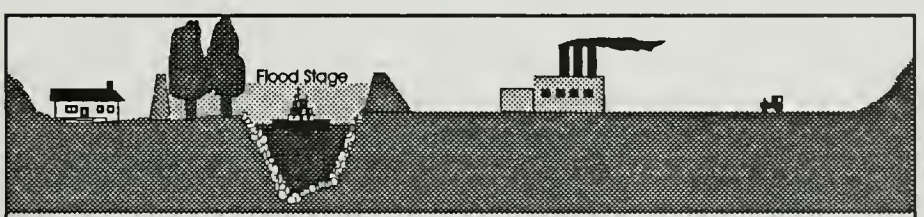
- The Environmental Management Technical Center (based in Onalaska, WI), which has ongoing programs for the Upper Mississippi and Illinois rivers.

- The Midwest Science Center, Columbia, MO, which has expanding responsibilities in large river ecology, primarily on the Lower Missouri River.

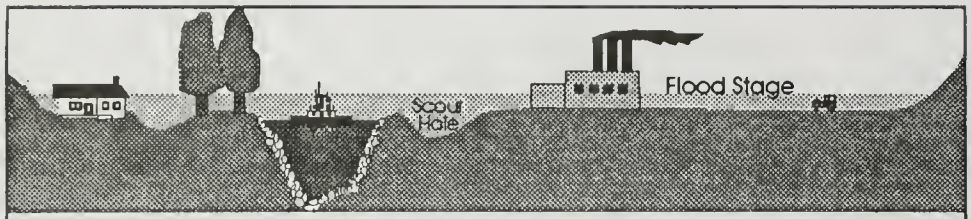
"The NBS will facilitate and coordinate the partnership to provide ready access to the material required by scientists, resource managers, and researchers concerned with biological and management issues across the affected region," Babbitt said. "The biological information to be provided will include locations of wetlands; breeding, stopover and wintering habitat for migratory birds; vegetation cover and changes in the wake of the flood; rare and endangered species habitats; and distribution of game and other fish and wildlife species."

Nine States, a variety of educational institutions, and several Federal agencies already have established working relationships for sharing data relating to the floodplain corridors of the Upper Mississippi, Lower Missouri, and Illinois rivers.

Scientists at the first four-days of the Conference presented extensive information on the management and problems of world-wide floodplain rivers. Dr. Robin Welcomme, of the Food and Agricultural Organization (FAO) of the United Nations (headquartered in Rome, Italy) led an effort to develop a synthesis of information from the Conference describing measures which managers and decision makers must take immediately to achieve ecological integrity on the world's floodplain river ecosystems. The following is the text that synthesis:



Navigation and flood control projects channelize rivers and isolate river floodplains with levees, increasing flood stage, impacting water quality and destroying wetland, riparian and instream habitats.



Broken flood control levees cause increased flood damages and floodplain scour because flood heights are increased and induced development is not protected from flooding.

"At the turn of this century workers, particularly Forbes and Antipa, had a considerable grasp of processes regulating the productivity of large rivers. However, the time was not ripe for ecological approaches to river management and industrial imperatives prevailed. As a result, floodplains of most temperate rivers disappeared and their natural communities and ecological processes were increasingly confined to the main channel. Temperate river research was concentrated on smaller rivers and, prior to the mid-1970's, work on large rivers was limited to the tropics where large floodplains and fisheries persisted. Current theories on river functioning were formulated, therefore, in the tropics and were transferred to the temperate regions through a series of publications and meetings. The most notable turning point in this process was the Large River Symposium in 1986 which was largely summarized by the flood pulse concept. Research and concepts relating to large rivers are therefore very recent and, although impatience at the slowness of progress is frequently expressed, the historical perspective demonstrates an extremely rapid revolution in the way we think about rivers.

'It is generally recognized that river form is a function of the totality of land-use patterns in the basin. Ecosystem change at the catchment (watershed) scale operates over periods that are larger than most management time-scales. Catchment management must be a long-term objective of integrated river management even though benefits may only be seen in the long term. Over shorter time-scales benefits in river rehabilitation can be obtained through local interventions aimed at maximizing habitat diversity.

'A consensus has emerged worldwide to adopt current models of the functioning of large rivers as the basis for management and rehabilitation. These models assume an integral relationship between the main channel of the river and its floodplains and accept the flood pulse and morphological diversity arising from it as the major driving factor in such ecosystems.

'Various definitions of river integrity have been proposed, but it is generally agreed that one aspect of such integrity is the reconnection of floodplain habitats with the main channel through a restored flood pulse. A series of ancillary considerations such as connectivity are accepted as expressions of the integrity.

'It is generally appreciated that rivers and their faunas are very resilient and that measures to improve or rehabilitate them can produce rapid positive responses within the system. This resilience also permits living aquatic communities to support a considerable degree of insult frequently leading to false optimism concerning the health of the systems in question.

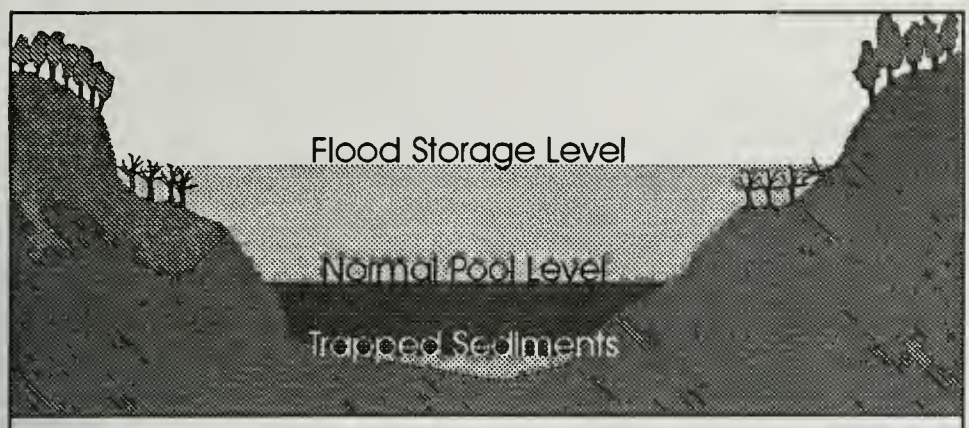
'However, if stress is excessive, losses of species and overall diversity occur. Most rivers in the world are now stressed or even degraded. Species have disappeared and living aquatic communities have been corrupted worldwide. The Mississippi-Missouri communities have not been exempt from this process as many species have disappeared in the past and further extinctions may be predicted for the future if present policies persist.

'Reaction to stresses is often expressed catastrophically through critical breakpoints that can only be determined retroactively. That a breakdown in a system is likely can be anticipated, but foretelling the actual time in which it will occur is far more difficult.

'The biggest stresses on large rivers are produced by high dams and reservoirs as they are so difficult to rectify. Separations from the floodplain by levees are also severe but are more easily remedied technically. Introduced species are viewed as an area of special concern but once established must be incorporated into future planning due to difficulties in their elimination. Eutrophication and pollution also stress biota especially when sustained and the quality of water and sediment may be a limiting factor for river restoration. In such cases the immediate objective is to improve environmental health.

'In many rivers of the world pollution effects are secondary to those produced by physical changes. As a consequence, legal frameworks based

Slackwater navigation impoundments, disrupt natural hydrographs, and create shallow wetlands which fill with sediments and dredged spoil, while tow traffic and development impact water quality.



Flood storage and hydropower reservoirs block fish movements, and disrupt natural hydrographs and sediment transport, while creating artificial habitats which alter water quality, natural flows, water levels, and nutrients outputs.

on chemical control, such as the Clean Water Act, are insufficient to remedy the degrading ecological situation in rivers.

'The Mississippi and its tributaries exist in various states of health. The health of the Upper Mississippi, while in decline, is not yet as degraded as the lower river, due to the habitat diversity created by the lock and dam system and the persistence of an active floodplain. This apparent health is unsustainable, however, due to the maintenance of the navigation canal with the resulting sedimentation and loss of habitat in backwater areas, mitigation of which calls for continued human effort. The lower Mississippi with its almost totally levied floodplain, poor water quality and riparian hardening is very unhealthy. The Missouri with the extensive channelization and reservoir cascade is in a high risk condition. The major tributaries such as the Illinois and Ohio rivers have been degraded by severe insult.

'It is generally recognized that the biggest single problem in formulating and executing management policies which incorporate the above principles is the lack of communication both upwards to decision makers and outward to the mass of people who form the body of the public opinion.

'There are many users of the river each with their own perception, pressure groups and financial interests. As a principle, no one group should be permitted to dominate, nor should it act without reference to other groups. This implies collaboration for management among all interested parties and agencies.

'There is a growing move to consider river rehabilitation as a legitimate goal for society in temperate zone systems. Nevertheless present plans for river management being formulated in the United States, Europe and Australia are often constrained by minority pressure groups and thus fail to take sufficient account of the ecological needs of the system.

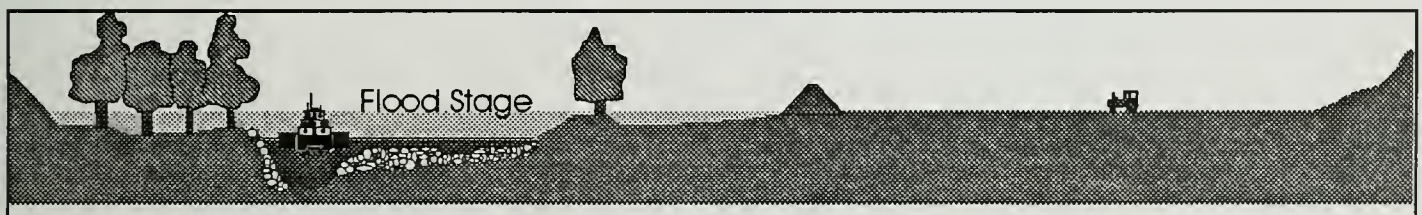
'Part of the problem is the failure to identify and quantify the goods and services that are provided by a healthy and integrated river. Most of such benefits are not incompatible with other human needs but space and resources have to be negotiated for all uses. Nevertheless some uses inevitably impair or degrade others even though efforts are made to minimize or mitigate the damage arising from them. Societal objectives, such as reducing flood damage and restoring floodplains are incongruent to a degree determined by technical and political considerations.

'It is recognized that general rehabilitation of river integrity is constrained by locally competing uses including human occupation through urbanization and agriculture.

'Nevertheless, certain general guidelines can be advocated now including:

- the removal or setting back of levees to allow the river to adjust locally,
- local floodplain restoration, and
- When an impairing use, such as the lock and dam system or lateral levees are no longer justified by economic or social benefit, their removal should be considered.

'Application of these actions is clearly limited by local land use and tenure and land acquisition by government may be needed to provide the space needed. Therefore the question arises as to how much floodplain is required to make a significant improvement in the integrity of the ecosystem and its biota and in the provision of systemic



Setback levees provide for ecosystem management, balancing developmental and environmental needs, and preserving river floodplain integrity, while providing for compatible floodplain uses.

goods and services. Current theories on floodplain function would predict that the area needed for an improvement to the biota is probably relatively small and could lead toward a development in the form of a string of beads with a series of floodplain patches connected by more restricted river corridors. Alternatively, water regulation procedures at navigation locks and dams could be modified to increase floodplain connectivity during appropriate seasons. Improvements in other functions such as flood storage may require restoration of greater proportions of the floodplain area.

'In general, rehabilitation should be guided by the principle that if you provide the right conditions of structure and hydrology nature will take care of the rest. Restoring integrity involves freeing the river to some extent to maintain, rebuild and rejuvenate itself by natural processes of scouring and deposition. Many examples of rehabilitation projects on rivers in the temperate zone are following such principles.

'Ultimately, integrated management should be extended into the river catchments to reduce inputs of sediment, nutrients and chemicals which have been shown by a growing body of evidence to impair ecosystem health and integrity.

'Many uncertainties remain and there is a continuing need for support of the elaboration of biological criteria, the formulation of management guidelines and in fine tuning the ongoing process. Management actions should be accompanied by monitoring programs which permit their evaluation and adjustment.

'In any eventuality, the need for further information should not stand in the way of the urgently needed management actions described above."

For more information on the Large Floodplain Rivers Conference and Workshop, and/or publication of its proceedings contact Dr. Ken Lubinski, National Biological Survey, 7550 Lester Drive, Onalaska, WI 54650.

Congressional Hearing Held on Flood Control Report

The White House Interagency Floodplain Management Review Committee Report, "*Sharing the Challenge: Floodplain Management into the 21st Century*" (Galloway Report) was officially released on July 13. The draft Executive Summary of the Galloway Report was printed in the last issue, Vol. 3, No. 3 of *River Crossings.*

Hearings were held in the Senate Environment Committee and the House Public Works Committee on July 20 and 26, respectively. Praised by environmentalists and Sen. Max Baucus (D/MT), chairman of the Senate Environment Committee, the report warns that floods will continue to occur, and that now is the time to organize a national floodplain management policy.

"We can save taxpayers money by encouraging people to move to higher ground, create jobs by promoting recreation, and preserve our environment by learning to work with our rivers instead of always against them," Baucus said. He plans to introduce a bill incorporating many of the report's "gutsy recommendations."

"For two centuries we have straitjacketed our rivers to get water out as quickly as possible," said Scott Faber of the conservation group American Rivers. "Now, our nation's top flood control experts are telling us that these policies are fundamentally wrong, that we should not be building so many levees, that we should not be constructing our homes and businesses in the floodplain, and that we should instead be trying to find ways to relocate vulnerable homes and businesses and keep storm water in our watersheds longer."

In June, American Rivers released its own flood control reform action plan. It calls for a watershed approach to flood control, increased state and local responsibility for floodplain and watershed management, and the creation of a permanent, ongoing flood relocation program within the federal emergency management agency. The group would like to see an end to the flood control policies by the U.S. Army Corps of Engineers and others who have relied on levees and engineering solutions, rather than zoning controls, relocation and the building of elevated housing, Faber said. He praised the Clinton administration for making relocation a fully funded choice during last year's great Midwest flood. "Georgia provides fresh evidence that floods are made worse by people living where they probably should not be," he said.

Congressional action could accomplish a great deal, he said, but an overhaul of the Corps and the biases it has against non-structural flood control efforts could be accomplished administratively. Faber criticized the report for recommending that the government repair damaged levees. The federal government spent more than $5.9 billion throughout the Mississippi River Valley through 1985, causing significant environmental damage, the report said. Restoration of wetlands, which act as natural sponges by absorbing overflow, is critical to alleviating flood conditions, Faber said.

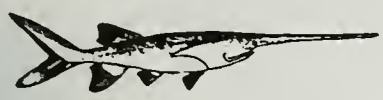
Source: Land Letter, July 20, 1994, Vol. 13, No. 21.

MICRA Paddlefish/ Sturgeon Committee

The MICRA Paddlefish/Sturgeon Committee has begun developing scopes of work and research proposals for implementation of their Strategic Plan, adopted by MICRA's governing body (Association) in early 1994. One proposal is to conduct a basinwide/multi-river, interagency/ interstate paddlefish tagging project.

State concern for the welfare of the paddlefish was one of the primary reasons for MICRA's formation in 1991. Some states have listed the paddlefish on their protected species

lists, while others maintain sport and/or commercial fisheries for the species. The Fish and Wildlife Service (Service) currently lists, the species on the federal "watch list".



paddlefish

The paddlefish's historical distribution covered most of the larger rivers of the Mississippi River Basin, but little is known about its present distribution, movements, or habitats. For example, there is concern that fish being harvested in one state may, in fact, have been produced far away in another state or river where the species may be listed as protected.

The proposed project will greatly enhance information needed to improve the management of paddlefish in the United States, including establishment of harvest regulations and habitat protection and management. Multi-state and agency participation will greatly enhance the success of any management recommendations which may be developed as a result of information collected. Several sources of project funding are being pursued.

Sturgeon Genetics

Sturgeon genetics as it relates to the distinction between pallid *Scaphirhynchus albus* and shovelnose *Scaphirhynchus platorhynchus* sturgeon has been at the center of a major controversy on the Missouri River. Dr. Isaac I. Wirgin, Nelson Institute of Environmental Medicine, New York University Medical Center and Dr. John R. Waldman, Hudson River Foundation presented a paper on that subject at the July 28-30 International Conference on Sturgeon Biodiversity and Conservation in New York City at the American Museum of Natural History. Information provided in their oral presentation and draft paper on *Scaphirhynchus* is summarized below:

Genetic diversity developed within any taxa of organisms over evolutionary time provides a buffer to withstand selective pressures resulting from environmental variation. Thus, retention of genetic diversity is believed essential for population stability; however, this diversity is often significantly diminished when populations undergo severe reductions in abundance. Such reductions in sturgeon diversity and abundance have resulted from anthropogenic (human) influences, including overexploitation, habitat alteration, and chemical discharge.

All taxonomic divisions, even at the population level, result from the effects of reproductive isolation. Given sufficient time even organisms with common ancestry will develop statistically significant and eventually fixed character differences. These character differences may result from stochastic processes (mutation and random genetic drift) impacting the isolated units, environmental pressures, or a combination of the two. The magnitude of differentiation in polymorphic characters among populations or taxa reflects the time elapsed since their isolation, the completeness of isolation, and to a lesser extent selection by environmental factors. Genetic analyses are based on the assumption that the longer and more absolute the reproductive isolation between units, the greater the number of character differences will have accumulated.

Traditionally, such analyses were performed by examination of morphological differences. Meristic and morphometric measurements were used as characters to discriminate taxa, to quantitate their similarity or differences, and to elucidate their phyologenetic relationships. However, these morphological traits are often subject to the short-term impact of environmental influences at sensitive early life stages, which may result in significant temporal instability in their expression. This temporal instability within populations or higher taxa could confuse comparative analyses of intertaxonomic differences.

Long-term reproductive isolation in the absence of gene flow among reproductive units serves to develop genetic differentiation of taxonomic units. Unlike morphological characters, genetic characters are not subject to short-term environmentally induced fluctuations. As a result, the magnitude of genetic differences among taxa or populations only reflects the duration of time since divergence and the extent of exchange of genetic material. Longer and more complete isolation can result in extensive differentiation. Thus, genetic analyses offer the opportunity to objectively identify unique taxa, compare and quantify the extent of genetic differences between taxa, and estimate time since their divergence.

Genetic variation may be analyzed at the protein or DNA levels. Initial studies focused on protein-level polymorphisms, usually at enzyme loci termed isozymes. Proteins are encoded for by DNA, and therefore, characterizations of protein-level variation provides an indirect measure of DNA-level polymorphisms. However, because of their functional significance in cellular activities, enzymes usually evolve slowly and are often insensitive measures of differentiation. Fortunately, for these purposes, over 90% of all DNA does not code for proteins nor regulate expression of genes. Therefore, most DNA sequences may be free of selective constraints.

In recent years, molecular biological approaches have been developed which allow for direct analysis of DNA sequence polymorphisms. Within fish, the vast majority of DNA is found within the nucleus; however, short circular DNA molecules are also located in the cytoplasmic mitochondria (mtDNA). All DNA is composed of the same four nucleotides: adenine (A), cytosine (C), guanine (G), and thymine (T), and techniques have been developed which allow for determination of the exact nucleotide sequence along

shovelnose sturgeon

short stretches of DNA. Most nucleotides in nuclear DNA are non-coding, and therefore, are free to evolve rapidly; nucleotides in the mitochondrial genome also change rapidly despite apparent functional constraints. Analyses of DNA sequence polymorphisms in vertebrate genomes offer the luxury of more than 3 billion characters to study, most of which evolve rapidly. Nucleotide sequence can be determined directly by sequence analysis or indirectly by the use of restriction enzymes which selectively sample for polymorphisms in short 4-6 nucleotide sequences.

Critical to the successful application of these approaches to sturgeon management is the existence of sufficient overall levels of genetic diversity to provide polymorphic markers. The extent and partitioning of DNA variation within a taxa or population is a function of its history. For extant sturgeon populations, antagonistic historical factors interact, modulating levels and geographic structure of genetic variation. The extreme age of many taxa and fidelity of homing in anadromous or lacustrine species should lead to high levels of conspecific variation and extensive differentiation of gene pools among populations. However, long generation time (in some cases up to 15-20 years) and recent severe diminution of some populations promotes low levels of overall genetic diversity.

Since approximately 1900, pallid and shovelnose sturgeon have been recognized as similar, but distinct species of river sturgeon within the Mississippi and Missouri river drainages. Significant differences in meristic, morphometric, and life history characteristics all support their taxonomic division. In recent years, a small but increasing number of fish collected from these systems exhibited intermediacy in the expression of these discriminatory characters, suggesting the existence of interspecific hybrids. Studies with depleted populations of other species in the Mississippi River drainage indicate an increase in interspecific hybridization in response to anthropogenic influence. Populations of both species, but particularly of pallid sturgeons, are currently severely depleted, probably due to habitat alterations, and are currently listed as endangered by the U.S. Fish and Wildlife Service.

Genetic studies were initiated to quantify the relatedness of pallid and shovelnose sturgeon and to identify markers which could be used to unequivocally identify F1 and later generation hybrids. Protein electrophoresis studies revealed only low levels of polymorphism within and between these taxa, and those loci (3 of 27) which were polymorphic failed to exhibit significant allelic differences. Thus, protein electrophoresis proved insensitive in distinguishing these taxa. Recently analyses of nuclear DNA was used to further attempt to address the extent of their genetic differentiation. Both RFLP analysis of a highly conserved prealbumin gene and PCR analysis using primers designed from several conserved human genes failed to reveal fixed or even significant genotypic frequency differences between pallid and shovelnose sturgeons.

These results suggest that 1) significant phenotypic variation between these species overrides little underlying genetic differentiation, and 2) that genetic studies may have focused on DNA characters which are not rapidly evolving. It is possible that these taxa may be genetically distinct and harbor fixed differences, yet the rate of evolutionary change is decelerated in *Scaphirhynchus* or divergence of the taxon is very recent. We suggest that analyses of more rapidly evolving non-coding nuclear DNA characters may be more definitive in determining the genetic bases of these taxonomic divisions.

Alabama sturgeon *Scaphirhynchus suttkusi*, morphologically similar to the shovelnose sturgeon have recently been described; this species is restricted to the Mobile River basin of Alabama and Mississippi. They are exceedingly rare and are currently being reviewed for endangered status by the U.S. Fish and Wildlife Service. Alabama sturgeon differ significantly from shovelnose sturgeon in several plate counts, fin ray counts, morphometric measurements in the head region, and position of the dorsal and anal fins. To determine the genetic distinctiveness of Alabama sturgeon, the extent of mtDNA divergence in approximately 300 base pairs of cytochrome B sequence was quantified between *S. suttkusi* and the other North American *Scaphirhynchus* species. The sequences of the three

pallid sturgeon

Scaphirhynchus species were identical, whereas divergence among three North American *Acipenser* species (white sturgeon, shortnose sturgeon, and Atlantic sturgeon) ranged between 6% and 9% for the same region of cytochrome B. Investigators argued that all three

North American *Scaphirhynchus* species probably represent phenotypic variants of the same species. However, it should be recognized that the cytochrome B region is one of the most conserved regions of mtDNA and is therefore a fairly insensitive marker of genetic differentiation.

Scaphirhynchus species show unusually low levels of DNA-level polymorphisms, always insufficient to discriminate among morphologically well-defined taxa. Two hypotheses can be advanced to explain these findings: 1) the rates of molecular evolution differ significantly between *Scaphirhynchus* and *Acipenser*. However, the fact that both mtDNA and nuclear DNA variation is depauperate within *Scaphirhynchus* would argue against this suggestion, and 2) speciation in *Scaphirhynchus* occurred much more recently than in North American acipenserids. *Acipenser* is a significantly older taxon in North America than *Scaphirhynchus*. Perhaps a comparison of levels of DNA variation in Eurasian acipenserids will shed further light on this question.
In any event, it still is not clear that DNA-based approaches can not be used in the management of North American *Scaphirhynchus* species. We suggest that investigations to date have focused on DNA sequences that are slowly evolving and that reveal insufficient levels of variation for taxonomic discrimination. However, even for those taxa which show low levels of variation it is still possible to discern genetic architecture by focusing on rapidly evolving DNA characters. Thus, analysis of microsatellite nDNA or non-coding single copy nDNA sequences may reveal sufficient levels of geographically structured genetic variation to address questions of management concern.

Rapid technical advances in the development of molecular biological approaches will allow for their routine application to fisheries problems. It is now possible to obtain DNA sequence information from archived museum specimens, from non-destructively obtained tissues such as fin clips or blood, and from early life stages such as single eggs or larvae. Furthermore, these samples can be analyzed in a timely fashion such that population level studies can easily be accomplished. Additionally, a variety of DNA level approaches have been developed which allow for investigations which focus on characters whose rate of change varies from extremely slow to exceeding rapid. This allows for the quantification of genetic relationships extending from the interindividual to the interspecific levels.

For the sturgeon biologist concerned with the enhancement and restoration of depleted populations, these developments should allow for:
- highly sensitive determination of the genetic relationships among extant species and between extinct and closely related extant species and populations using archived museum samples as sources of DNA,
- routine genetic screening of hatchery broodstock to maximize genetic diversity of resulting progeny and maintain genetic integrity of individual unit stocks,
- use of genetic tags for forensic applications in identifying the species or population origin of processed sturgeon products, and
- increased reliance on genetic techniques to discriminate sturgeon stocks and estimate their relative contributions to mixed fisheries.

The bottom line is that, under the current state of the art, if a genetic character can be found which differs between two types of organisms, that character can be used to conclusively separate the two species. However, if such a genetic characteristic cannot be found, no conclusion can be made either for or against separation of the species. That is the case presently for for the three species of *Scahphirhynchus*. Consequently, for now, the three *Scaphirhynchus* species (i.e. shovelnose, pallid, and Alabama sturgeon) should be considered to be separate species, and differences should be judged on phenotypic characteristics.

Status of the World's Sturgeon and Paddlefish Species

Sturgeon and paddlefish species diversity is threatened worldwide, and in fact, some European and Asian forms are reported to be extirpated. Reduced diversity and abundance of these ancient fish has been largely caused by anthropogenic (human) influences during the 20th century, including overexploitation, habitat alteration, and chemical discharge. So what took nature millions of years to create, man has nearly destroyed in less than one century. Table 1 displays worldwide status of the various paddlefish and sturgeon species.

This Table adds perspective to the need for the U.S. listing of the pallid, gulf, Alabama and shortnose sturgeons on the Federal List of Threatened and Endangered Species. As shown in Table 1, of the 29 world species of sturgeon and paddlefish, few enjoy status above "vulnerable"; which says that an entire form of organism is threatened with extinction in the 21st century unless major changes are made in the way we manage our rivers.

Most sturgeon and paddlefish problems are related to continued development and exploitation of the world's natural resources by a world-wide growth of human population, which according to a July 18th USA Today article is growing at a rate (births minus deaths) of 2.8 people per second or nearly a quarter of a million people per day! The same article predicts that world population will double in 43 years (well within the lifespan of most people alive today). Table 2 shows the USA Today data.

Such drastic growth of human population makes one wonder how anyone could state that man is an "endangered species", unless one also states that we are primarily endangered by our own inability to limit human numbers. The present situation in Rwanda may be just the tip of the iceberg of things to come. Yet we read and hear statements

Table 1. World-wide Status of Sturgeon and Paddlefish Species

Species	Common Name	Distribution	Status*
Acipenser baeri	Siberian sturgeon	Siberia	K;AP;E
A. baeri baicalensis	Baikal sturgeon	Siberia	E
A. brevirostrum	Shortnose sturgeon	North America	V;T
A. dabryanus	Yangtze sturgeon	China	E (Close to Ex)
A. fulvescens	Lake sturgeon	North America	V;T
A. gueidenstaedti	Russian sturgeon	Russia	V;AP
A. medirostris	Green sturgeon	North America	V
A. mikadoi	Sakhalin sturgeon	Japan, Korea Russia, China	I
A. naccarii	Adriatic sturgeon	Europe Central Asia	V
A. nudiventris	Ship sturgeon	Central Asia	E;AP;Ex
A. oxyrhynchus desotoi	Gulf sturgeon	North America Mexico South America	T
A. o. oxyrhynchus	Atlantic sturgeon	North America	V;SC
A. persicus	Persian sturgeon	Central Asia	E
A. ruthenus	Sterlet	Central Asia Eastern Europe Siberia	E;AP;I;K;R
A. schrencki	Amur sturgeon	Siberia	V
A. sinensis	Chinese sturgeon	China	E
A. stellatus	Stellate sturgeon	Central Asia Eastern Europe	I;AP
A. sturio	Atlantic (Baltic) sturgeon	Europe Central Asia	E (Close to Ex)
A. transmontanus	White sturgeon	North America	V
Huso dauricus	Kaluga sturgeon	Russia, China	R
H. huso	Giant or Beluga sturgeon	Central Asia Eastern Europe	E;V;AP;Ex
Pseudoscaphirhynchus fedtschenkoi	Syr-Dar shovelnose	Central Asia	E;Ex
P. hermanni	Small Amu-Dar shovelnose	Central Asia	E
P. kaufmanni	Large Amu-Dar shovelnose	Central Asia	E
Scaphirhynchus albus	Pallid sturgeon	North America	E
S. platorynchus	Shovelnose sturgeon	North America	E**
S. suttkusi	Alabama sturgeon	North America	E
Polyodon spathula	American paddlefish	North America	I,SC
Psephurus gladius	Chinese paddlefish	China	E

* Ex (Extinct); E (Endangered); V (Vulnerable); R (Rare); I (Intermediate); K, (insufficiently Known); T, (Threatened); SC (Special Concern); AP (Artificially Propagated, Natural Reproduction Limited). The listing of a species under more than one category indicates a difference in classification between separate river systems on a continent.

** Not listed as an endangered species by the U.S. Fish & Wildlife Service.

Source: The International Conference on Sturgeon Biodiversity and Conservation, July 28-30, 1994, American Museum of Natural History, New York, NY. Sponsored by: The Hudson River Foundation for Science & Environmental Research, The American Museum of Natural History, and The Aquarium for Wildlife Conservation. Table was adapted from information on the conference folder.

being made about humans being endangered by more and more people who claim their individual freedoms are being infringed by application of the Endangered Species Act.

As the leader of the free world and the only remaining superpower, America has the last best chance of doing something about the decline of species alive on this planet. To do so means that we have to improve our land and river stewardship practices. But those who would continue to use and develop our rivers continue to debate the need for protecting endangered species at all! The following editorial, entitled "Having Dominion" and published by the Waterways Journal, Vol. 108, No. 13, June 27, 1994, is but one example of this attitude.

"The debate over abuse of the Endangered Species Act (ESA) has driven rabid environmentalists to decide they want reauthorization of the ESA 'taken off the table' for 1994. So much anger has been inspired by their habit of putting 'animal and plant rights' over human suffering and need that they fear the act will be weakened.

'Animal rights? Who dreamed up such garbage? 'Animal rights' and 'preventing cruelty' are not the same. Government at all levels cringes under attacks by 'rightists' who repeatedly 'throw gravel' in the gears of commerce. It is no longer politically correct to 'call a spade a spade'. Calling it anything but what it is represents a defense mechanism for those who do not want themselves to be recognized for what they really are.

"A rose by any other name is still a rose.' The same can be said for a skunk. No amount of rhetoric can change that unless we allow it to happen. Radical 'protectionists' are profoundly destructive!

'Among those who would have us put animals and plants on the throne and humans on the trash pile are many who profess no god. In fairness, it is also true to say that many atheists and godless people do put human beings first. What does the *Bible* say about the species?

'Genesis 1:27 (in authorized King James version) tells us that 'god created man in his own image...' Chapter 28 then says, 'And god blessed them, and God said unto them, **Be fruitful, and multiply, and replenish the earth, and subdue it, and have dominion over the fish of the sea and over the fowl of the air, and over every living thing that moveth upon the earth.'** (Emphasis provided by The Waterways Journal)

'This command, for those who accept the *Bible* as the word of God, clearly states that humans were created by God in His likeness and that flora and fauna were created as a means of

Table 2. World Population Growth

Country	Population (in millions) 1994	2025	Years for Population to double
China	1,192.0	1,504.3	61
India	911.6	1,376.1	36
USA	260.8	338.3	98
Indonesia	199.7	288.5	43
Brazil	155.3	199.9	40
Russia	147.8	142.1	*
Pakistan	126.4	275.6	25
Japan	125.0	125.8	267
Bangladesh	116.1	211.3	29
Nigeria	98.1	246.0	23
Mexico	91.8	137.5	31
Germany	81.2	73.2	*
Vietnam	73.1	107.2	30
Philippines	68.7	105.1	29
Turkey	61.8	98.2	32
Iran	61.2	152.2	19
Thailand	59.4	74.5	50
Egypt	58.9	97.9	31
United Kingdom	58.4	62.1	281
France	58.0	58.7	182
World	5,607.0	8,504.0	43

* Population expected to decline

Source: USA Today, July 18, 1994.

sustaining life. Those who take the words of the Holy Scriptures to be true, and who believe humans are intended to have dominion over the plants and creatures of the wild, are also told elsewhere in the *Bible* that they should be good stewards.

'Good stewardship means we should have the common sense to differentiate in cases involving the preservation of the species and remember that we have, by Webster's definition, 'supreme authority' over plants and animals. Stewardship also means we should not waste (or destroy) wantonly what god has put on the earth for our benefit.

'*Bible* believers, then, are admonished to take dominion over (control) the earth but be good stewards (don't be wasteful). There is no doubt, based on the above arguments that humans are more important than flora and fauna, though we depend upon them for our survival.

'Those who do not believe in the *Bible's* creation story and prefer the evolutionary argument that man simply evolved over millions of years and is merely another species, we must ask: Why do humans--other than the fact that it is prudent not to be wasteful--owe other species anything? Does the lion owe the rabbit because the lion is more intelligent? In the natural scheme of evolution do not only the fittest survive?

'Humans, by divine right or not, have dominion over flora and fauna, and that's what radical environmentalists and animal rightist are trying to eliminate. They want total control.

'Many people have been treated shabbily via Endangered Species Act abuse. It's time for a change.

'Though we need to be good stewards, we need to overhaul the Endangered Species Act--not just reauthorize it!"

The Waterways Journal is published weekly in St. Louis, MO and is seen as one of the waterway industry's leading news publications. The Waterways Journal has long supported continued development of our nation's rivers for waterborne commerce, being a leading advocate for expanded navigation capacity. The nation's navigation projects are, major contributors to the alteration of rivers and destruction of habitats needed for survival of native riverine species, including paddlefish and sturgeon.

As stated by Dr. Thomas Lovejoy of the Smithsonian Institution at the July 28-30 International Conference on Sturgeon Biodiversity and Conservation, "The information contained in the genes of species which have evolved through millions of years of evolution on this planet represent the 'library' of information necessary to survive here". Can we really afford to stand idly by while these precious libraries are being destroyed?

Russian biologists at the Sturgeon Biodiversity Conference are so concerned about the loss of genetic information that they are currently working on the maintenance and preservation of sturgeon gene pools by means of cryopreserving (freezing) their gametes and embryos. Its truly sad to think that we have to resort to such extreme measures to preserve portions of the earth's library of genetic information.

What if the DNA of these threatened species hold the key to prevention of some future disease? Once a species is extinct, the information it holds is destroyed forever, there are no backup tapes? Can the trappings of our society (VCRs, video games, etc.) be more important than our own survival?

If we can't be good stewards and share this planet with the other living things around us, do we deserve to call ourselves civilized?

Endangered Species Act Reforms

A Senate Environment panel began work to reauthorize the Endangered Species Act on June 15, the day after Interior Secretary Bruce Babbitt announced a group of administrative reforms designed to appease the Act's critics by taking greater advantage of its flexibility.

While reauthorization is not expected to take place until 1995, the move represents a preemptive strike on the part of the administration to take the high ground away from business and

private property rights advocates who charge that the nation's most comprehensive species protection law is too rigid and ignores the needs of people. Babbitt, who also testified before the subcommittee, outlined five policy directives and promised to unveil additional reforms over the course of the summer.

The directives call for greater cooperation between the Fish and Wildlife Service and the National Marine Fisheries Service, the two agencies charged with administering the act. Among the changes announced last week are policies that expand use of independent peer reviews to ensure that listing decisions are made with the best scientific information available.

The directives require agencies to minimize any social and economic impacts that stem from the implementation of recovery plans. To achieve this, recovery teams will be expanded to include representatives of affected groups, state agencies, and private organizations. The plans now must be completed within 30 months of a species listing. In keeping with the administration's emphasis on ecosystem management, multi-species listings and recovery plans will be used wherever several species are dependent on the same ecosystem.

To increase predictability in species management and educate the public about the effects of a listing decision in the region, the services must identify, to the extent known at final listing of a species, any activities that are exempt from or will not be affected by the section 9 prohibitions regarding the "take" of a listed species. A single point of contact in a region will now be identified to assist the public in understanding the scope of the regulations.

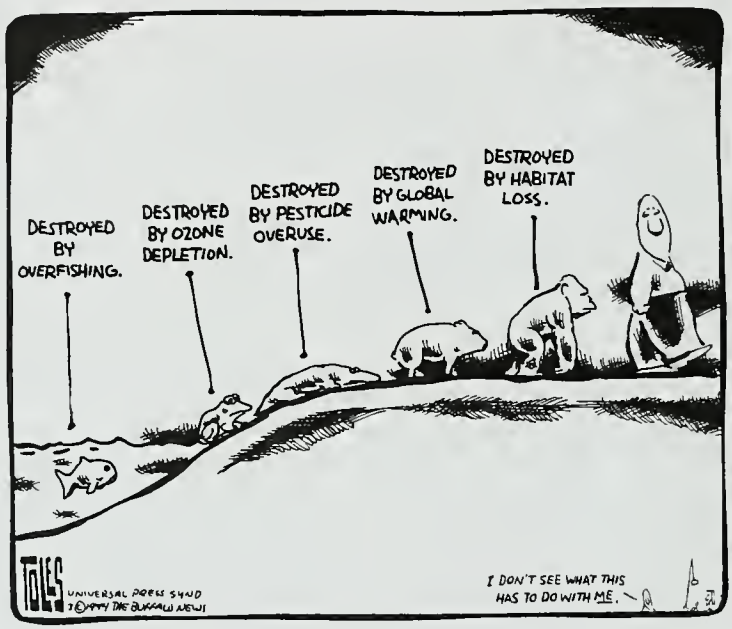
State fish and wildlife agencies have primary responsibility for protecting and managing their species and habitats, unless pre-empted by federal authority. Their close working relationships with local governments and landowners are essential to achieving the goals of the Endangered Species Act, Babbitt said. State and local entities will now be required to participate in pre-listing, listing, consultation, recovery, and conservation planning.

"Over the past 20 years the sense of innovation and the possibilities that are inherent in the law really haven't been explored," Babbitt told the committee. "The history of the administration of this act has been narrow, grudging and defensive, and my attempt as secretary is to see if we can become proactive." Rather than push for reauthorization in 1993 or 1994, Babbitt said he preferred to establish a better administrative record of the Endangered Species Act from which Congress could judge the success of the law.

The administration is exploring ways to use section 4(d) of the act to accommodate economic activities while furthering the recovery of listed species. This flexibility has been used both in dealing with California in protecting the coastal California gnatcatcher and in partnerships with private industry to protect the red-cockaded woodpecker in the South, he said.

The announcement elicited cautious support from the environmental community, though most are withholding judgment until the details of the directives are released this week.

The best way to conserve species is to prevent them from becoming threatened or endangered in the first place, said Douglas Hall, assistant secretary of the National Oceanic and Atmospheric Administration, who also testified before the subcommittee. With proper administration and coordination of other wildlife laws, including the National Environmental Policy Act, the Fish and Wildlife Coordination Act, the Magnuson Fishery Conservation and Management Act, and the Marine Mammal Protection Act, the need for listings may be precluded.



Subcommittee Chairman Bob Graham (D-FL) plans to hold a series of hearings on the Endangered Species Act throughout the summer and early fall, with mark-up expected sometime in 1995. The panel currently is considering S. 921, an environmentalist-backed bill introduced by full committee Chairman Max Baucus (D/MT) and Ranking Republican John Chafee (R/RI), and S. 1521, an industry-supported bill introduced by senators Richard Shelby (D/AL) and Slade Gorton (R/WA).

Source: Land Letter, June 20, 1994, Vol 13, No. 18.

More Endangered Species Listings for the Missouri River?

The Missouri River is truly an ecosystem in decline; a train wreck waiting to happen! Secretary of the Interior Babbitt focused on the Missouri in his talk at the July 12-19 Large Floodplain Rivers Conference discussed earlier in this issue.

Reading from the Galloway Report: "Thirty-four species of Missouri River Basin stream fish are listed by basin states as rare, threatened, endangered, or as species of special concern. The pallid sturgeon, piping plover, least tern, and bald eagle are all native Missouri River species listed as endangered by the U.S. Fish & Wildlife Service (FWS). Population densities of five species of chubs and two species of minnows have been reduced by as much as 95 percent since 1971. Burbot have been nearly extirpated, sauger have been greatly reduced, and blue catfish are rare." "Need I read more", Babbitt said.

American Rivers, the Environmental Defense Fund, the Mni Sose Intertribal Water Rights Coalition, the National Audubon Society, and the Nebraska Audubon Council say not! These groups have petitioned Molly Beattie, Director of the U.S. Fish & Wildlife Service to list the sicklefin chub *Macrhybopsis meeki* and sturgeon chub *Macrhybopsis gelida* as endangered species.

sturgeon chub

The petition states that "...both the habitat range and the abundance of sicklefin chubs and sturgeon chubs have decreased during the past fifty years. The decline of the species' range and the species' abundance is directly linked to their inability to adapt to the human induced alterations of the Missouri River. Impoundment and channelization have dramatically changed the historical character and have drastically altered the sicklefin chub's and sturgeon chub's natural habitat.

'...Sicklefin chubs and sturgeon chubs have physically adapted through evolution to live in a turbid, swift flowing river...The removal of snags

sicklefin chub

from the Missouri River and dam construction have reduced the amount of organic matter in the Missouri's water and consequently affected the range and abundance of aquatic insect larvae...Traditionally, snags' large woody debris and leaves provided organic matter for larvae, which in turn were eaten by both the sicklefin chub and the sturgeon chub.

'The continuous removal of snags has reduced the quantity of particulate matter found in the Missouri and has aided in the reduction of sicklefin chub and sturgeon chub abundance and distribution. In addition, dam construction has reduced the amount of particulate matter and aquatic insect larvae present in the river. Dams on the mainstem and tributaries have interrupted the movement of sediment from upstream...The reduction of sediment transport has transformed the Missouri River's turbid environment, eliminating the sicklefin chub's and sturgeon chub's habitat and ecological niche.

'The construction of dams on the mainstem and its tributaries has also changed the river's natural hydrograph and water temperatures, thereby affecting both species' spawning success which occurs in response to water temperature, photoperiod, and run-off cues. Since 1954, dams on the mainstem and tributaries have eliminated peak run off periods and produced a flat, metered and cooler hydrograph. Changes in the natural hydrograph have eliminated reproduction run-off cues. Thermal modifications send misleading signals that also affect the fishes' ability to reproduce successfully.

'The circumstances described above clearly necessitate listing the sicklefin chub and sturgeon chub as endangered. The reduction of sicklefin chub and sturgeon chub habitat has severely impacted the fishes' ability to survive. Transformation of the river has created an entirely new ecological niche. In a colder, less turbid river, other Missouri River fish more effectively compete for resources that the sturgeon chub and sicklefin chub were adapted to capture in traditionally more turbid, swift waters.

'At present, the prospects for the sicklefin chub and sturgeon chub look grim. No vehicle now exists to protect and maintain these species throughout their range; and artificial propagation carries grave consequences for wild gene pools. Were they listed as endangered, the chances of survival for both species would be greatly enhanced for several reasons. First, listing the sicklefin chub and sturgeon chub would bring into effect the obligations of section 7 of the Endangered Species Act that federal agencies consult with the U.S. Fish and Wildlife Service to ensure that their actions not jeopardize the survival of the species. Thus, listing would guarantee that the Corps of Engineers would consider an alternative operation plan for the River, a plan that took into account the habitat needs of both species. The Corps' Preliminary Draft Environmental Impact Statement does not specifically consider the sicklefin chub's and sturgeon chub's habitat requirements. Listing would guarantee this investigation and future protection of both species.

'Second, listing would raise funding for sicklefin and sturgeon chub research. To protect these fragile fish communities it is urgent that scientists learn more about the fish and their

habitat. At this time, scientists desperately need more knowledge about both species to evaluate effectively the current operation of the Missouri River system. In addition, funds are needed to implement a comprehensive management plan."

The petition for listing the chubs is currently held up on a technicality, but is expected to proceed once the technical problems are worked out. If listed, this would bring the endangered species on the Missouri River to five (i.e. piping plover, least tern, pallid sturgeon, sicklefin chub, and sturgeon chub). All require more natural sandbar and channel habitats than presently exist.

The Missouri River does not, however, need just another endangered species plan. On the contrary, it needs an ecosystem management and recovery plan–just as Secretary Babbitt is calling for in his new Endangered Species Act proposals (described earlier).

Missouri River Master Manual Review

In the face of the 1993 Floods and now the calls for additional listing of endangered species (reported on above), Missouri River managers have had their hands full.

In the midst of all this the U.S. Army Corps of Engineers has been developing recommendations for changing the way they operate the large mainstem reservoirs. This is in response to the furor (near war between the states) that started during the drought of the late 1980's.

Fierce competition developed between the states during those dry years over whether the Missouri River's water should be held in the reservoirs to accommodate recreation (important to the economies of upper Basin states) or released to float barges (important to the economies of lower Basin states).

The Corps of Engineers released the findings of their $12 million study at a Draft Environmental Impact Statement Workshop held in Omaha, NE in early July. The recommended changes were described by the Missouri River Basin States Association's newsletter (June 1994) as follows: "Essentially, the preferred alternative would leave much of the Master Manual as it is. It calls for a moderate spring rise to benefit fish and wildlife, along with a period of low water in summer and autumn, and a navigation season shortened by one month. During droughts, it would conserve water by shortening the navigation season and lowering the navigation service level sooner than the current manual does. Finally. by drawing down the three upper reservoirs in turn instead of drawing them all down at once, it would allow fish and wildlife there to recover during two out of every three years."

The Corps' recommendation thus attempts to accommodate the needs of multiple uses (including fish and wildlife). But it also put a dent in the armor of downstream commercial navigation and farming interests who have had their way on the Missouri River since the partial implementation of the Pick-Sloan Plan in the 1940's.

The Corps justifies their recommendations more on the fact that there were no good economic reasons not to change operating procedures, than on environmental considerations themselves. Although both were listed as reasons for change.

The Corps says that water releases from Gavin's Point Dam have limited influence on the Missouri River hydrograph below the Iowa state line. Starting with the Platte River (Nebraska), many tributaries enter the Missouri River and dampen out any effect of Gavin's Point releases.

The economics of the Missouri River navigation project have long been questioned by environmental interests, as have the merits of farming in hazardous flood zones. It is said that the commodity most hauled on the Missouri River is "rock" (to maintain the channel), and one doesn't notice very much barge traffic on the River or very many grain terminals along its banks. Most of the grain is said to be shipped out by rail or truck.

The 1993 floods added significant political capital to environmentalists' arguments. Rebuilding navigation project infrastructure and agricultural levees, and restoring agricultural lands to pre-flood conditions, at the expense of the taxpayer and the environment in the face future flooding and additional public expense are being questioned by more and more people. The taxpayer is paying for 65-80% of these repairs, including 65% of the $500+/acre cost of plowing 2 feet of sand deposited by the flood under to refurbish the soil. At best, the market value of the best Missouri River floodplain land when totally restored is only $1,500/acre.

Despite all the federal aid to restore pre-flood conditions, navigation and farm interests are still crying foul over the Corps' Master Manual recommendation, and these concerns were expressed by all eleven Missouri Congressmen in the following July 15th letter to President Clinton:

"We are writing to respectfully request that you direct the Secretary of the Army to delay release of the Draft Environmental Impact Statement for the Missouri River Master Water Control Manual. The document is scheduled for imminent release by the Missouri River Division, but the preliminary draft is prejudiced in that it does not properly reflect the significant harm to Missouri agriculture and commerce. The Corps of Engineers is refusing to perform the necessary analysis for presentation in the Draft Environmental Impact Statement (DEIS).

'Specifically, the Corps has announced its Preferred Alternative which differs significantly from the several alternatives put forward earlier on a 'short list' presented for preliminary review. You may recall that this preliminary review had been requested in a letter to you from 71 members of Congress. The Preferred Alternative imposes an artificial spring

flood that would be visited annually upon the lower Missouri River by a 91-day-long release of 20,000 cubic feet per second flow from Gavin's Point Dam in excess of the water needed to sustain commercial navigation and all other uses of the River.

'The reason for simulating spring flooding is to meet perceived needs of the Pallid Sturgeon, an endangered species, in accordance with the Pallid Sturgeon Recovery Plan, prepared by the U. S. Fish and Wildlife Service. Review of the Recovery Plan has raised serious questions about its validity resulting in a pending request from Missouri Governor Mel Carnahan to Interior Secretary Babbitt to re-open the comment period on the document. The comment period on the Recovery Plan was opened only briefly in 1992.

'We have learned in consulting with agriculture officials in Missouri that the annual flood pulse proposed by the Corps may have extremely serious repercussions in that water levels may be sufficiently high to preclude drainage of farmlands for spring planting. Because this man-made flooding would be imposed for a 91-day period in April, May, and June, this proposal would not only be completely unacceptable, it would also create unnecessary controversy, so soon after the worst flooding in Missouri history.

'Governor Carnahan's representative for the Master Manual Review process specifically asked the Corps whether it had considered negative effects of simulated spring flooding on drainage of agricultural lands, and was told not only that it had not done so, but it would not be possible to make the necessary analyses prior to scheduled release of the DEIS. We ask that you delay the document's release until the Corps has determined the effects of its proposed actions on Missouri's agriculture.

'We are also concerned about the operations of the Port of the City of St. Louis and the reach of the Mississippi River between St. Louis, Missouri and Cairo, Illinois. The Corps' proposed reduction in flows from the mainstem Missouri River dams unfortunately coincides with the low-flow season on the Mississippi River. Flows of less than 80,000 cubic feet per second at St. Louis are not infrequent, and we foresee multiple problems with port operations including reduced access to shipping facilities, inability to fully load barges, reductions in the size of tows, and an increased need for dredging. These impacts all have costs that have not been properly incorporated into the Corps' analysis.

'In addition to the shortcomings of the DEIS and the Preferred Alternative, we are also concerned that the Corps plans to release the DEIS soon after the change of command in the Missouri River Division. Colonel Schaufelberger, who has directed the $12 million project to develop the DEIS, is retiring in July, leaving the task of administering the public comment and response to his successor. We respectfully suggest that the successor be given sufficient time to become familiar with the issues, and that the process include meeting with Members of Congress, Governors, and tribal leaders to ascertain their positions prior to holding public hearings. Further, an appointment to the position of Assistant Secretary of the Army for Civil Works has not yet been made but should precede any Corps's initiative having such profound changes affecting waterborne commerce on the Missouri and Mississippi Rivers.

'Mr. President, we bring these matters to your attention because we believe the Corps's proposed actions on the Missouri River represent a profound departure from fair and equitable management of the River and its resources, and the preliminary DEIS must be corrected prior to its release."

Missouri Governor Carnahan also wrote letters to both Interior Secretary Bruce Babbitt and to President Clinton requesting that the Pallid Sturgeon Recovery Plan be reopened to public comment. Carnahan said the "Pallid Sturgeon may become the midwestern equivalent of the Spotted Owl". Other articles in this issue of *River Crossings* speak to the need for listing and the plight of the pallid sturgeon and other sturgeons world wide.

The real issue in Missouri appears to be a concern that the Missouri River will be dried up by the sale and transfer of water outside of the basin as all of the Tribal water rights issues are settled. Assuming that were the case, one would then have to wonder why the Mni Sose Intertribal Water Rights Coalition signed on to the petition to list the sicklefin and sturgeon chubs on the federal List of Threatened and Endangered Species (reported on elsewhere in this issue of *River Crossings*). That petition calls for maintaining flows in the River to support these large river species.

Missouri is so concerned about loss of water in the River that they even went on record at a recent Missouri River Basin States Association meeting as opposing use of Missouri River water as a rural water supply in southeastern South Dakota, northeastern Nebraska, and Northwest Iowa. It would appear that Missouri feels the only rightful use of Missouri River water is to float barges!

This will likely become a very hot issue in coming months, as environmental groups, led by American Rivers, plans to file a lawsuit if necessary to protect the river ecosystem.

The real issue seems to be that the barge and towing industry and

floodplain farmers are unwilling to share the river with anyone else. Perhaps they have been subsidized so long that they have come to identify these subsidies and their personal use of the river and its floodplain as rights rather than privileges, and are simply unwilling to pay the real costs of doing business in the floodplain--one of which is protection of the environment!

Some of the federal subsidies floodplain farmers receive include:

- protection by upstream reservoirs,
- funding assistance for levee construction,
- disaster recovery payments,
- crop disaster payments,
- federal crop insurance,
- crop set aside payments,
- assistance with drainage projects, ditch clean-out, and sand removal.

It is interesting to note that in those areas along the Mississippi and Missouri rivers where flooding occurred more naturally last summer (i.e. areas not aggravated by the erosion and sediment deposition of the "dam break floodwaves" of breaching and failing levees as described in the Galloway Report), farmers are experiencing one of their best crops in recent times. Could it be that the river's flood waters actually added fertility and organic matter to these soils as described by environmentalists? It would seem that the "flood pulse advantage" enjoyed by the rivers' fish populations last year also provided an advantage to flooded farm lands--a natural subsidy!

If we can just take advantage of these natural subsidies, farming and management of natural ecosystems can exist in harmony. We simply need to have a vision and we need to break down old myths and paradigms that have outlived their usefulness. The Missouri River desperately needs some room to breathe, and that could be provided by a multiple use floodway with setback levees. Congress just needs the wisdom and the fortitude to make it happen!

Back to the River Project

Senator Bob Kerrey of Nebraska held an information and strategy meeting in Omaha, NE on July 7th to discuss his "*Back to the River Project*". Diane Hill, Kerrey's Environmental Liason, conducted the meeting.

Hill explained that Senator Kerrey's "*Back to the River Project*", is designed to "reacquaint ourselves with our river heritage and the beauty and importance of the water". Hill explained that we have done so much to develop the river for commercial purposes that its hard for people to even see the River, let along gain access to it. Kerrey hopes to help change that.

Several members of the Omaha District Office of the Corps of Engineers were on hand to describe their study of the Missouri River Corridor Project, and to create a strategy for the future. The Corps' proposal includes land acquisitions and development of trails, greenways and river access. The project stretches from DeSoto National Wildife Refuge on the north to the Platte River on the south, bracketing the Omaha metropolitan area.

Steve Oltman of the Papio-Missouri River Natural Resources District said he would like to see such a corridor stretch all the way from Gavin's Point Dam to St. Louis.

Jerry Rasmussen, U.S. Fish & Wildlife Service, described his agency's efforts to create a multi-unit National Wildlife Refuge ("Big Muddy National Wildlife Refuge") along the River in the state of Missouri, as well as his agency's efforts to assist landowners with buyouts in the aftermath of the 1993 floods.

Patricia Giorgi and Dave Given, National Park Service, described their agency's interests in the River, the Park Service's Missouri River Corridor Project, and their work with local units of government through the Park Service's "Rivers and Trails Program", helping locals plan greenways and open space along the nation's rivers.

Senator Kerrey's vision for the Missouri River is very similar to that portrayed by the Interagency Floodplain Management Review Committee Report (Galloway Report) as the desired floodplain of the future. If Kerrey's vision can be linked with that of other Congressmen, agencies, and publics, perhaps we can one day see a much more environmentally desirable Missouri River.

We applaud Senator Kerrey and his staff for their vision!

Sturgeon for Tomorrow

In 1977 a concerned group of people who fish for lake sturgeon in Lake Winnebago, led by William P. Casper, formed an organization to help preserve, protect and enhance the existing lake sturgeon population for future generations. This group evolved into what is now called the Main Chapter of *Sturgeon for Tomorrow*. Subsequently the Southwest, Northern Half and West Central Wisconsin chapters were formed. The first objective was to develop a fund raising program to support research, management and regulation efforts for the preservation and protection of lake sturgeon. A second objective was to work in cooperation with the Wisconsin Department of Natural Resources (DNR) toward establishment of an artificial propagation program.

With the ground work laid for the

formation of this group of private citizens, public meetings, petition drives and fund raising efforts began. *Sturgeon for Tomorrow* quickly initiated support for the artificial propagation program for lake sturgeon. In the late 1970's in cooperation with the DNR, *Sturgeon for Tomorrow* led the first effort to obtain eggs and sperm from spawning fish and incubate them in a New London, Wisconsin hatchery. Although this first attempt was unsuccessful, efforts continued. By 1979 DNR fish culturists solved the problems encountered in earlier propagation attempts and produced fingerling size fish.

lake sturgeon

In 1980 the DNR initiated a field study on early life history and expanded the investigation on the artificial propagation of lake sturgeon. This work was supported in part by funds provided by *Sturgeon for Tomorrow*. Since 1977 *Sturgeon for Tomorrow* has provided $195,000 for hatchery and field research, and law enforcement programs. The organization is responsible for the development and implementation of special regulations and policy for the protection of lake sturgeon, which include no license sales after the spearing season begins. It can also take credit for the $1500 fine for possessing an illegal sturgeon.

Sturgeon for Tomorrow finances the "*River Patrol*" that monitors the spring spawning run of the sturgeon. To prevent poaching, volunteers from various wildlife organizations and *Sturgeon for Tomorrow* patrol the spawning sites on the Wolf and Fox Rivers 24 hours a day during the spawning season.

Sturgeon for Tomorrow is continuing to expand its involvement in supporting research, management and protection of lake sturgeon within the Lake Winnebago system, and to broaden the scope of studies to include lake sturgeon populations throughout Wisconsin. It plans to continue to work with the DNR on all aspects of lake sturgeon preservation and enhancement. Recently it has begun supporting studies focused on the early life history of lake sturgeon, using radio telemetry to determine their migratory behavior. The outcome of this work will contribute significantly to an increased understanding of the biology of young sturgeon.

Thanks to the efforts of *Sturgeon for Tomorrow*, lakes and rivers that once had the mighty fish may have them again. They plan to continue their work to help preserve, protect and enhance this valuable species.

Perhaps other groups interested in saving and assisting in the management of river fishes should use the model developed by *Sturgeon for Tomorrow* in their rivers. For more information contact: William Casper, Sturgeon for Tomorrow, Inc., N8826 Bluegill Drive, Fond du Lac, WI 54935, (414) 921-1358.

Report Criticizes Programs Detrimental to Wetlands

A new Interior Department report to Congress urged an end to federal programs that encourage destruction of wetlands. "Many of these programs are designed and financed in ways that violate the most basic principles of economics," said Interior Secretary Bruce Babbitt. "Such programs distort market signals and provide subsidies that have both negative environmental and economic effects, wasting resources and adding to the federal deficit." The July 11 report, "*The Impact of Federal Programs on Wetlands*," is the second of two reports authorized by the 1986 Emergency Wetlands Resources Act.

In calling for a comprehensive strategy for wetland conservation, the report recommends redesigning federal programs to phase out financial support for unsound economic development, financing new projects in a manner which ensures that those who benefit pay their fair share of the costs, and strengthening federal mitigation policies to ensure compensation for unavoidable adverse project impacts on wetlands.

Copies of the report are available from the U.S. Fish and Wildlife Service, 703/358-1711.

Source: Land Letter, July 20, 1994, Vol. 13, No. 21.

Clean Water Act Reauthorization Delayed

Senate Environment Committee Chairman Max Baucus (D-MT) announced June 10 that Senate action on the Clean Water Act reauthorization would not take place until after the House marks up its bill. Senate sources indicate that it remains their intention, however, to pass a Clean Water Act reauthorization bill this year.

In the past several months, Baucus had received letters from senators and interest groups on both sides of the clean water issue opposing S. 2093, the comprehensive reauthorization bill he introduced with ranking Republican John Chafee (R/RI). Senators Charles Grassley (R/IA), Howell Heflin (D/AL) and 46 senators from agriculturally-dependent states sent a letter to Baucus on April 25, criticizing the bill. "We believe many provisions are excessively restrictive and would prove extremely costly for family farmers, livestock producers, agribusiness, forest product producers and our small rural communities," the letter said.

Conversely, senators James Jeffords (R/VT) and John Kerry (D/MA), led 15 senators in warning Baucus of their opposition to S. 2093 unless it is significantly strengthened. Chafee himself has threatened to oppose the bill if it is weakened in committee. Environmental groups have also expressed concern over the bill.

The criticism has not tempered

Baucus's enthusiasm for the issue, though time for action may be running short. "It is critical that we pass Clean Water Act legislation this year," Baucus said. Many observers believe other issues, like health care and appropriations, could crowd clean water off the calendar.

Source: Land Letter. June 20. 1994, Vol. 13, No. 21

The New Rivers and Wildlife Handbook

This handbook is a practical guide to river management techniques that integrate the requirements of flood control, wildlife and other river interests. The original, highly successful *Rivers and Wildlife Handbook* published 10 years ago, has been revised and updated. Many of the techniques it advocated have now been adopted as standard practice by flood control engineers.

The New Rivers and Wildlife Handbook provides engineers working on flood control rehabilitation and other aspects of river management with an authoritative yet accessible guide to current, environmentally sensitive management practices. It will prove invaluable to all those involved or interested in river management.

The book is divided into four sections:
- Hydrology, geomorphology and wildlife interest of rivers;
- Overview of survey methods used to assess the wildlife value of rivers;
- River management practices to benefit wildlife (engineering techniques and vegetation management); and
- Case studies of environmentally sound and proven river management practices.

The book is 426 pages in length, including 150 figures, 235 plates and 100 tables. Cost is approximately $25.00 plus shipping and handling. The book is available from The Royal Society for the Protection of Birds, The Lodge, Sandy, Bedfordshire SG19 2DL, United Kingdom. Telephone: 0767 680551.

Zebra Mussel Leadership Training: "Stopping the Spread"

Minnesota Sea Grant is sponsoring leadership training workshops designed to help educators teach the public about zebra mussels and how to stop their spread. The training package contains basic information on zebra mussel problems and control measures and is designed as a ready-made education program for many audiences including sporting and environmental groups, and boating and lake associations.

The package includes a 15-minute video or slide-tape set, a printed trainer manual, and supplementary teaching materials (e.g. Great Lakes Sea Grant Network fact sheets, contact lists, graphics/visuals). Providing information on the biology, monitoring and effects of the zebra mussel invasion, the package will help potentially impacted audiences cope with and slow the spread of this exotic species.

Sea Grant will also present the results of a three state boater survey, designed to evaluate the efficacy of past zebra mussel public outreach efforts.

The workshops will be held on September 15th at the Day's Inn in La Crosse, WI, and on September 16th at the Duck Creek Park Lodge in Davenport, IA. Registration is $40.00.

For further information contact Doug Jensen, Exotic Species Information Center Coordinator, Minnesota Sea Grant, 2305 East Fifth Street, Duluth, MN 55812. (218) 726-8712.

Meetings of Interest

August 21-25, 1994: 124th American Fisheries Society Annual Meeting, "Managing Now for the 21st Century: Food, Recreation, Diversity." Sheraton Hotel and World Trade Centre, Halifax, Nova Scotia. Contact Paul Brouha, AFS, 5410 Grosvenor Lane, Suite 110, Bethesda, MD 20814-2199, (301) 897-8616, FAX (301) 897-8096.

September 6-9, 1994: "Ninth International Trout Stream Habitat Improvement Workshop". Marlborough Inn, Calgary, Alberta. Cosponsored by the American Fisheries Society Fisheries Management Section. Contact Garry Szabo, Trout Unlimited Canada, P.O. Box 6270, Station D; Calgary, AB T2P 2C8; (403) 221-8365; FAX (403) 221-8368.

September 21-23, 1994: "Environmental Problem Solving with Geographic Information Systems", Cincinnati, OH. Contact Sue Schock or Dan Murray, U.S. EPA, CERI,26 W. Martin Luther King Drive, (G-75), Cincinnati OH 45268. (513) 569-7551 or (513) 569-7522. Sponsored by the U.S. EPA Center for Environmental Research Information.

November 14-16, 1994: "Watershed WISE: A Workshop on Watershed Protection", Grand Junction, CO. Contact Susan Foster, Thorne Ecological Institute, 5398 Manhattan Circle, Suite 120, Boulder, CO 80303.

(303) 499-3647. FAX: 499-8340. Steering committee and sponsors include U.S. EPA Region VIII, Western Governor's Association, MT Dept. of Health and Environmental Sciences, SD Dept. of Environment and Natural Resources, CO Dept. of Health, SCS, The Nature Conservancy Western Regional Office, BLM, and Thorne

Ecological Institute. Objectives are to encourage and support practical and effective approaches to watershed stewardship, and to share experiences and exchange ideas, tools, technology, philosophy, and values useful to watershed initiatives.

October 22-26, 1994: "National Symposium on Urban Wildlife", Embassy Suites Hotel, Bellevue, WA. Contact Lowell Adams, National Institute for Urban Wildlife, 10921 Trotting Ridge Way, Columbia, MD 21044.

October 23-26, 1994: "Annual Meeting of the Southeastern Association of Fish and Wildlife Agencies", Mississippi Coast Coliseum and Convention Center, Biloxi, MS. Contact Richard Wells, MS Department of Wildlife, Fisheries, and Parks, Jackson, MS 39205.

October 24-28, 1994: "Third International Conference on Ecological Economics", San Jose, Costa Rica, Central America. Contact Organizing Committee, Third International Conference on Ecological Economics, P.O. Box 555, 3000 Heredia, Costa Rica, Central America.

November 13-16, 1994: "Dredging '94", Buena Vista Palace, Buena Vista, FL. Contact E. Clark McNair, Coastal Engineering Research Center, U.S. Army Corps of Engineers, Waterways Experiment Station, 3909 Halls Ferry Rd., Vicksburg, MS 39180-6199; 601/634-2070.

April 3-7, 1995: "National Wetlands Workshop", Clarion Hotel, New Orleans, LA. Contact U.S. Army Engineer Waterways Experiment Station, Wetlands Research & Technology Center, Attn: CEWES-EP-W, 3909 Halls Ferry Road, Vicksburg, MS 39180-6199, (601) 634-2569/4217; FAX (601) 634-3664.

May 31-June 2, 1995: "East Coast Trout Management and Culture Workshop II", Penn State University, State College, PA. Contact Marty Marcinko, 450 Robinson Lane, Pennsylvania Fish Commission, Bellefonte, PA 16823, (814) 359-5223. Theme of the workshop is "Looking to the Future: How Can We Meet the Need?", Co-sponsored by the American Fisheries Society's Northeastern Division and Southern Division's Trout Committee, Duke Power Co., National Park Service, Pennsylvania Fish Commission, and Tennessee Valley Authority.

June 5-9, 1995: "Sustainable Forests: Integrating the Experience International Conference", Sault Ste. Marie, MI, and Sault Ste. Marie, Ont. Contact Joan Jaffit, Conference Manager; 705/759-2554; FAX 705/256-6156.

June 12-14, 1995: "Third Reservoir Fisheries Symposium", Chattanooga Marriott at the Convention Center, Chattanooga, TN. Contact Steve Miranda, Chair, Third Reservoir Fisheries Symposium, Mississippi Cooperative Fish and Wildlife Research Unit, P.O. Drawer BX, Mississippi State, MS 39762; FAX 601/325-8726.

Congressional Action Pertinent to the Mississippi River Basin

Environmental Protection Agency

The Senate passed a measure May 19 elevating the EPA to cabinet status, as an amendment to **S. 2019**, the Safe Drinking Water Act.

Fish and Wildlife

The Senate Environment Committee held a hearing June 15 on reauthorizing the Endangered Species Act, and on June 30 approved **S. 823**, which aims to improve the management of the National Wildlife Refuge System.

H.R. 4676 (Lambert, D/AR) provides for the coordination and implementation of a national aquaculture policy for the private sector by the agriculture secretary and establishes an aquaculture development and research program.

H.R. 4734 (Studds, D/MA) requires consultations, assessments, and monitoring of the effects of trade policy on the environment, including fish, wildlife, and endangered species.

Government Affairs

A House Government Operations panel held a hearing May 18 on unfunded federal mandates and considered **H.R. 140**, **H.R. 886**, and **H.R. 1295**, which seek to curb unfunded mandates.

On June 16, the Senate Governmental Affairs Committee approved an amended **S. 993**, which seeks to reduce the imposition of unfunded federal mandates on state and local governments.

S. 2242 (Daschle, D/SD) establishes the National Institute for the Environment to improve the scientific basis for the decision-making on environmental issues.

Parks

S. 2139 (Rockefeller, D/WV) provides for the management and study of certain rivers, parks, trails, and historic sites.

The Senate Energy Committee approved on June 15 **S. 1980** to establish the Cane River Creole National Historical Park and Heritage Area in Louisiana.

Public Lands

H.R. 4575 (Gunderson, R/WI) directs the Secretary of the Army to transfer to the State of Wisconsin lands and improvements associated with the LeFarge Dam and Lake portion of the

project for flood control and allied purposes.

S. 2189 (Hatfield, R/OR) amends the Federal Land Policy and Management Act to provide for ecosystem management and establishes a congressional ecosystem management commission to define and analyze "ecosystem management" and make recommendations for further legislative action.

Water and Wetlands

On May 19, the Senate voted 95-3 to pass **S. 2019**, which reauthorizes and amends the Safe Drinking Water Act.

House Public Works Committee held additional hearings on **H.R. 3948**, which reauthorizes the Clean Water Act, on May 24 and May 26, taking testimony from EPA Administrator Carol Browner and others.

A House Merchant Marine panel held a hearing June 8, on **H.R. 4308**, which authorizes appropriations for wetlands conservation projects through the North American Wetlands Conservation Act.

H.R. 4475 (Franks, R/NJ) directs the Administrator of the EPA to conduct a study to identify future funding options for financing infrastructure projects under the Clean Water Act.

H.R. 4481, The National Aquatic Ecosystem Restoration Act (Studds D/MA and Hamburg, D/CA) seeks to restore the nation's aquatic ecosystems through the voluntary cooperation of federal, state, tribal, corporate and private interests. A federal interagency task force led by the U.S. Fish and Wildlife Service would develop a national aquatic restoration strategy, patterned after the recommendations of the "Restoration of Aquatic Systems" report recently released by the National Research Council.

Water Projects

H.R.4460 (Mineta, D/CA) provides for the conservation and development of water resources and provides for the Secretary of the Army to construct various projects for improvements to rivers and harbors.

A House Science panel approved for full committee action **H.R. 1116** to improve research activities under the Clean Water Act.

H.R. 4189, The Waterways Restoration Act (Furse D/OR) amends P.L. 566, which offers broad guidance to the Soil Conservation Service, to add a new grants and technical assistance program to the Service's existing watershed program. This new program will take advantage of the Service's significant resources and outreach to fund non-structural, community-based projects that restore local creeks, rivers, floodplains, and wetlands in both rural and urban areas.

H.R. 4770 (Tauzin D/LA) requires the Fish and Wildlife Service to examine the lands and waters of the LaBranche wetlands in St. Charles Parish, LA, for the purpose of acquiring those lands for inclusion in the Bayou Sauvage Urban National Wildlife Refuge.

Watersheds

H.R. 3873, the Urban Watershed Restoration Act (Holmes Norton D/DC) amends the Clean Water Act to provide grant money to local river activists to restore neighborhood urban streams. With more than 40 co-sponsors, the bill is picking up steam and is expected to be offered as an amendment to the Clean Water Act as it is considered through the Public Works Committee in the House of Representatives. Hearings are expected shortly.

H.R. 4213, the River and Watershed Protection and Restoration Act (Richardson D/NM) creates a voluntary river and watershed registry. Landowners, communities, businesses, Indian tribes, and watershed councils can petition their state and the Interior Secretary to register neighborhood streams, using a locally developed strategy for their protection and restoration. Hearings are expected shortly.

Wilderness

On May 17, the House passed **H.R. 2473** which designates 1.7 million acres of Montana land as wilderness. **S. 2125** (Burns, R/MT) designates 800,000 acres of Montana land as wilderness. **S. 2137** (Baucus, D/MT) designates 1.2 million acres of Montana land as wilderness.

Sources: Land Letter June 15,1994, Vol. 13, No. 17 and July 15, 1994, Vol. 13, No. 20, and American Rivers Vol. XXII, No. 2, Summer 1994.

Mississippi Interstate Cooperative Resource Association
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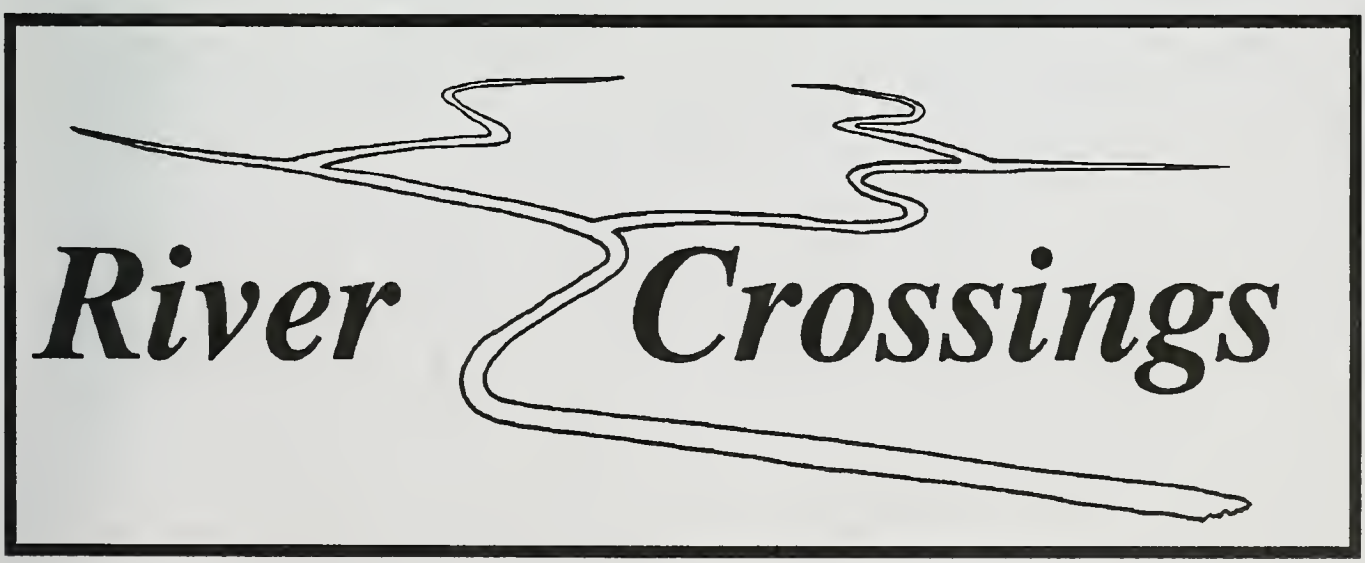
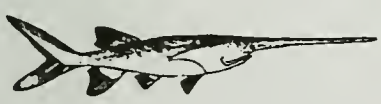


River Crossings

Volume 3 September/October 1994 Number 5

MICRA Paddlefish Survey

The International Association of Fish and Wildlife Agencies (at their annual September meeting) ranked the MICRA paddlefish proposal as their number one priority for funding with year-end federal aid monies. The survey, entitled, "Documentation of Paddlefish Distribution and Movements in Mississippi River Basin Mainstem Rivers", is presently awaiting approval of U.S. Fish and Wildlife Service (FWS) Director Mollie Beattie.



If funded, the $200,000 survey would develop a special tagging system and coordinate a multi-state, multi-year (3-5 years) effort to tag paddlefish and document habitat use and movements downstream from high dams, and between states and rivers across the Basin. Information would also be collected on paddlefish reproduction, growth and length-frequency distribution.

MICRA would develop and distribute specially marked plastic jaw tags to participating states and entities for use in marking paddlefish in their jurisdictional waters. The specially marked tags would be numbered and carry instructions for return of information and/or the tag to the MICRA Coordinator's office. Requested information would include date and location of collection, length, weight, and general condition of the fish. MICRA would also develop informational signs and brochures for distribution by participating states and entities to strategic individuals and locations (ie. media, fishing clubs, bait shops, etc.) throughout the Basin. This measure is needed to inform the public and to enhance tag and/or information recovery.

Each participating state or entity would agree to collect and mark up to 300 paddlefish annually. Participants would complete this work either through the work of their own personnel or through subcontracts with commercial fishermen. The number actually collected and tagged would be dictated by the availability of paddlefish stock in a state or entities' assigned river reach. After tag placement and measurement of length, weight, and general condition, marked fish would be returned to the waters where captured.

States targeted for tagging and information collecting include Minnesota, Wisconsin, Iowa, Illinois, South Dakota, Nebraska, Kansas, Missouri, West Virginia, Ohio, Indiana, Kentucky, Tennessee, Arkansas, Mississippi, and Louisiana. Rivers targeted include the Mississippi, Missouri, Ohio, Tennessee, Arkansas, Red, and Atchafalaya. In the event that a state cannot, or chooses to not participate in the project, the Fish and Wildlife Service, Tennessee Valley Authority or other cooperator would be asked to participate in information collection for that reach.

INSIDE THIS ISSUE

Information and tags returned to the Coordinator's office would be compiled and analyzed by members of the MICRA Paddlefish/Sturgeon SubCommittee.

For additional information contact: Jerry Rasmussen (FWS), MICRA Coordinator/Executive Secretary, (314) 876-1911; Kim Graham (MO), Paddlefish/Sturgeon SubCommittee Chairman, (314) 882 9880; or Bobby Reed (LA), Paddlefish/Sturgeon Committee member (318) 491-2577.

Sicklefin Chub/Sturgeon Chub Survey

MICRA has received $20,000 to conduct a survey of sicklefin and sturgeon chub distribution and abundance on the Missouri River in Missouri. This funding comes from the U.S. Fish and Wildlife Service (Region 3) endangered species program, and is, in part, a response to the petition for listing these species, reported on in the last issue of *River Crossings*.

sturgeon chub

sicklefin chub

The survey would be designed to duplicate (same sites and same level of effort) past surveys conducted by Dr. William Pflieger, ichthyologist for the Missouri Department of Conservation. It would determine present distribution and abundance of the two species, and document any changes since the last Pflieger survey.

Both species are considered potential forage for the endangered pallid sturgeon. The survey will be conducted under the auspices of the Paddlefish/Sturgeon SubCommittee.

Floodplain Management Bill Introduced

Senator Max Baucus, Chairman of the Environment and Public Works Committee, introduced the "Floodplain Management, Environmental Restoration, and Recreation Act of 1994" (S. 2418) on August 24, 1994. The bill was in response to, and addresses many recommendations of the Galloway Floodplain Management Report. It is intended:

- to improve floodplain management,
- to protect and restore floodplain environments, and
- for other purposes.

Components of the bill are summarized below:

Water Resources Council

The Water Resources Council (WRC), provided for under Section 101 of the Water Resources Planning Act (42 U.S.C. 1962a), but eliminated by the Reagan Administration, would be revitalized. WRC membership would be changed by replacing the Federal Power Commission with the Department of Energy, and adding the Federal Emergency Management Agency.

The WRC Chairman reporting directly to the President would:

- serve as the primary center for assistance concerning coordination and resolution of interstate and interagency water resources management issues;
- seek to align Federal floodplain management with other broad national goals; and

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608 East Cherry
Columbia, MO 65201

River Crossings is a mechanism for communication, information transfer, and coordination between agencies, groups and persons responsible for and/or interested in preserving and protecting the aquatic resources of the Mississippi River Drainage Basin through improved communication and management. Information provided by the newsletter, or opinions expressed in it by contributing authors are provided in the spirit of "open communication", and do not necessarily reflect the position of MICRA or any of its member States or Entities. Any comments related to "River Crossings" should be directed to the MICRA Chairman.

• serve as an innovative planning and technology clearinghouse for floodplain management.

One of the first WRC tasks would be to prepare and submit to Congress a report evaluating the Secretary of the Army's efforts to change Corps of Engineers policies and practices concerning use of structural solutions to water resources management problems. The WRC would also oversee activities of the Upper Mississippi River Flood Management Coordinating Committee (UMRFMCC), the Lower Mississippi River Flood Management Coordinating Committee (LMRFMCC), and the Missouri River Flood Management Coordinating Committee (MRFMCC), all of which would also be established by the bill. One million dollars would be appropriated annually to the WRC.

Upper Mississippi River Study

Within two years the Secretaries of Army and Interior, in cooperation with the States of Illinois, Iowa, Minnesota, Missouri, and Wisconsin, and with approval of the Upper Mississippi River Basin Association (UMRBA), would prepare and submit to Congress a report that:

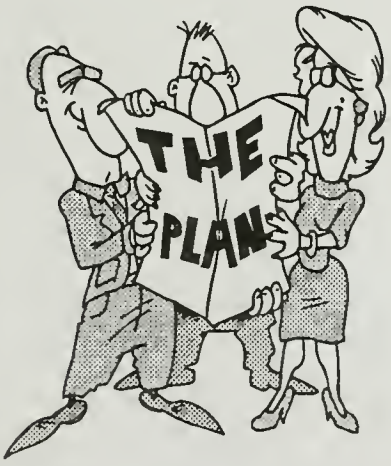
• assesses the environmental sustainability of the Upper Mississippi River system (i.e. Mississippi River and tributaries north of and adjacent to Cairo, Illinois, except for the Missouri River and its tributaries).
• evaluates on-going programs, and
• recommends additional or alternative actions to enhance and protect the long-term ecological integrity of the Upper Mississippi River Basin (exclusive of the Missouri River).
• addresses both watershed and floodplain actions.

Coordinating Committees

The Secretary of the Army would establish the UMRFMCC, LMRFMCC, and MRFMCC to review and recommend approval or disapproval of projects developed under other provisions of the Act. UMRFMCC would report to the WRC and include as members the Secretaries of Army, Interior, Agriculture, and Transportation; and the Governors of Iowa, Missouri, Minnesota, Illinois, and Wisconsin. The LMRFMCC would be established as a subcommittee of the Mississippi River Commission (MRC). The MRC, established by Congress on June 28, 1879 already has jurisdiction over the lower Mississippi River. The LMRFMCC would report to the WRC, coordinate activities with the MRC, and include as members the Secretaries of Interior, Agriculture, and Transportation; and the Governors of Arkansas, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee. The MRFMCC would be established as a subcommittee of the Missouri River Basin Association (MRBA). The MRFMCC would report to the WRC, coordinate activities with the MRBA, and include as members the Secretaries of Army, Interior, Agriculture, and Transportation; and the Governors of Iowa, Kansas, Missouri, Montana, Nebraska, North Dakota, and South Dakota.

River Basin Management Plans

The Secretary of the Army (within 2 years) would develop comprehensive river basin management plans for the Upper Mississippi, Lower Mississippi, and Missouri rivers. These would be developed in consultation with the UMRBA and the UMRFMCC; MRC and



the LMRFMCC; and the MRBA and the MRFMCC, respectively. They would address the Basin's long-term ecological, economic, and flood control needs. The plans would provide for integration of existing flood-control facilities into an efficiently functioning flood damage reduction system, including structural and nonstructural measures, that are compatible with functioning and restoration of floodplain ecosystems. Five million dollars would be authorized for their preparation.

Habitat and Monitoring Projects

The Secretary of the Army, in consultation with the Secretaries of Interior, Agriculture, and Transportation would carry out (1) programs for planning, construction, and evaluation of measures for fish and wildlife habitat restoration and enhancement; and (2) long-term resource monitoring. These programs would be consistent with the lower Mississippi and Missouri River basin management plans, developed elsewhere under the Act. The Department of the Army would be authorized (annually for 5 years) $13 million for the habitat rehabilitation and $5 million for the resource monitoring programs of each river system (i.e. Lower Mississippi and Missouri rivers).

Upper Mississippi River Basin Levees

The Secretary of the Army would conduct a survey of existing levees, excluding levees constructed to less than the 10-year flood protection level and protecting lands of 5 or fewer landowners. The survey would assess the:

• physical condition of each levee;
• estimated economic benefit of the levee to the area protected;
• estimated environmental impact of the levee; and
• estimated cost of bringing the levee into compliance with Army Corps of Engineers standards, where that compliance is necessary.

Upper Mississippi River Hydrology

Within two years the Secretary of the Army would conduct a study of Upper Mississippi River Basin hydrology to determine the systemic effects of existing structural flood control measures. Ten million dollars would

be authorized for this effort.

Local Drainage Levees

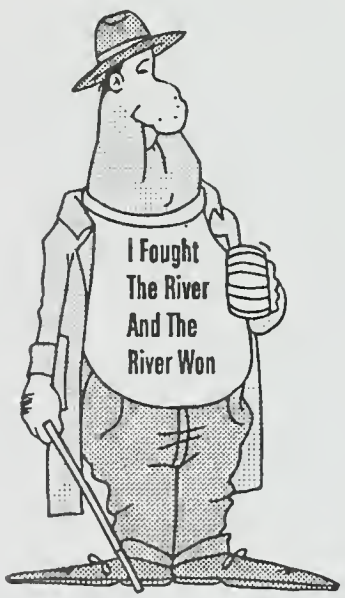
Within one year the Secretary of the Army, in consultation with the Environmental Protection Agency Administrator and the Secretary of Housing and Urban Development, would conduct a study to determine how local drainage systems may be designed and retrofitted to:

- preserve aquatic habitat,
- limit potential increases in flood discharges, and
- meet the needs of areas served by the systems.

One million dollars would be authorized for this effort.

Flood Prone Areas

Within one year the Secretary of the Army, in coordination with the Federal Emergency Management Agency Director, would conduct a study of the entire Mississippi and Missouri river basins to determine the most frequently flooded areas with the greatest loss of human life and property. One million dollars would be authorized to carry out this effort.



Flood Control Benefits Determination

Section 905 of the Water Resources Development Act of 1986 (33 U.S.C. 2282) would be amended to ensure that flood control benefits determined for projects not include benefits derived from any use of the 100-year floodplain that involves, after the date of initiation of the reconnaissance study for the project:

- construction of a new structure;
- substantial improvement to a structure; or
- any other change in a floodplain activity where the project is located that significantly increases commercial or resale value of floodplain property subject to flood damage.

Funding of Nonstructural Measures

Section 5(a) of the Act entitled "An Act authorizing the construction of certain public works on rivers and harbors for flood control, and for other purposes", approved August 18, 1941 (33 U.S.C. 701n(a)), is amended to allow the Secretary of the Army to:

- use emergency funds to replace flood control measures damaged or destroyed by flood with nonstructural measures;
- combine emergency funds with funds available from other Federal programs, and funds available from State, local, and private sources to complete nonstructural flood control measures;
- use emergency funds to develop mitigation plans for areas that provide for carrying out nonstructural measures to reduce damage in the event of future flooding;
- use not less than 15% of all funds expended for each fiscal year for the purpose of flood control to study, design, construct, and implement nonstructural measures;
- apply to the WRC and receive a waiver from the minimum funding level if there are an insufficient number of appropriate nonstructural measures on which to expend the full amount of the funds; and only to the extent that the minimum funding level cannot be met because of the insufficiency;
- cost share 75% of an activity relating to nonstructural measures. Non-Federal interests with respect to such measures shall provide all land, easements, rights-of-way, dredged material disposal areas, and relocations necessary for such measures, but shall not be required to contribute any amount in cash during the measure's construction or implementation.

Levee Maintenance and Repair

Section 5(a) of the Act entitled "An Act authorizing the construction of certain public works on rivers and harbors for flood control, and for other purposes", approved August 18, 1941 (33 U.S.C. 701n(a)) (as amended by section 108), is further amended as follows:

Levee Maintenance and Repair: Except as provided in subparagraph (B), the Secretary of the Army shall coordinate and carry out repair and rehabilitation of a levee, after the levee is damaged by a flood or other natural disaster, if the State or local interest with respect to the levee:

- participates in the national flood insurance program;
- carries out routine levee operation and maintenance and upkeep;
- in the case of a levee that provides 100-year flood protection, requires all protected properties to comply with the national flood insurance program;
- in the case of a levee that provides less than 100-year flood protection, requires insurance on all protected structures and crops;
- with respect to the repair and rehabilitation, meets the cost-sharing requirements for flood control projects specified in section 103(a) of the Water Resources Development Act of 1986 (33 U.S.C. 2213(a)), except that the minimum non-Federal share shall be 20%;
- provides for appropriate environmental enhancements to the land protected by the levee, in coordination with appropriate Federal and State agencies;
- does not raise levee height immediately preceding or during a flood without prior agreement of the State and the Army Corps of Engineers; and
- in the case of a levee not previously subject to the Army Corps of Engineers engineering standards (as of the day before the date of the

damage), brings the levee into compliance with the standards.

Ineligible Levees: A levee shall not be eligible for Federal assistance under subparagraph (1) if the Secretary determines that the levee is:

- in a hydrologically inappropriate location, as determined pursuant to studies conducted under this Act;
- inconsistent with the Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies after its revision by this Act, or
- should be replaced with 1 or more nonstructural measures.

Levee Owners Manual: Within one year the Secretary of the Army shall prepare a manual describing Corps of Engineers' maintenance and upkeep responsibilities necessary for a non-Federal interest to receive Federal assistance under this paragraph, including responsibilities relating to compliance with the Principles and Guidelines after its revision under this Act. A copy of the manual would be provided to each non-Federal interest receiving Federal assistance under this paragraph.

Prohibition of Delegation: Preparation of the levee owners manual shall be carried out under the personal direction of the Secretary of the Army and may not be delegated below the position of the Assistant Secretary of the Army having responsibility for civil works.

Local Cost-Share Credit for In-kind Contributions: In meeting cost-sharing requirements non-Federal interests may:

- accept contributions of funds, materials, services, and other items of value, and in-kind contributions, for the purpose of providing a portion of the project's non-Federal cost share; and
- provide non-cash contributions.

Determination of Value: The value of noncash contributions credited towards the non-Federal cost share would be determined in advance by mutual agreement of the Corps of Engineers and the non-Federal interest. One million dollars would be authorized to carry out this section.

Missouri River Floodway Project

To improve riparian habitat and reduce flood losses along the Missouri River, the Secretary of the Army would pay the Federal share (80%) of purchasing, from willing sellers, land along the Missouri River between Sioux City, IA, and St. Louis, MO. In determining land purchases the Secretary would consult with the Secretaries of Interior and Agriculture. Eight million dollars would authorized to carry out this section for each of fiscal years 1995 through 2004.

Buy-Out Funding

In each fiscal year, the Secretary of the Army would purchase land or easements and relocate willing sellers in floodprone areas, or areas protected by flood control structures that repeatedly fail. To the maximum extent practicable, the Secretary would:

- combine funds made available under this section with funds of other Federal agencies available for the same purpose; and
- cooperate with other Federal agencies to identify areas that, if purchased, would be available to achieve multiple Federal purposes, including flood damage reduction, decreased repair and rehabilitation of flood control structures, and environmental enhancement.

Twenty-five million dollars would be authorized to carry out this section for each fiscal year, to remain available until expended.

Watershed Management

Section 2 of the Act entitled, "An Act authorizing the construction of certain public works on rivers and harbors for flood control, and for other purposes", approved June 22, 1936 (33 U.S.C. 701b), would be amended to require the Secretary of the Army to collaborate with Federal, State, and local agencies during the planning, design, and construction phases of all flood control projects to adopt a watershed-wide approach to flood loss reduction.

Environment and Recreation

The Act would establish Congressional recognition for:

- rivers and reservoirs of the United States as principal sources of water-based recreation;
- water resources as habitat for numerous species of animals and plant life;
- water resources as important ecosystems whose delicate balance is critical to sustaining and preserving the environment and natural resources of the United States;
- recreation and environmental protection of water resources as proper activities for the Federal Government in cooperation with States, political subdivisions of States, and local governments; and
- recreational opportunities and protecting the environment as missions of the Army Corps of Engineers of at least equal import to provision of flood control and navigation along inland and shoreline waters and harbors and ports of the United States.

Environmental Improvement

Section 1135(b) of the Water Resources Development Act of 1986 (33 U.S.C. 2309a(b)) would be amended to allow not more than 80% of the non-Federal share to be in kind, fairly evaluated, including a facility, supply, or service that is necessary to carry out the modification. Also the Secretary of the Army would annually conduct a review of not fewer than 5 flood control projects, and not fewer than 5 navigation or other projects, constructed or assisted by the Secretary:

- in accordance with section 1135 of the Water Resources Development Act of 1986; and
- to determine the need for environmental restoration projects in river systems impacted by the

construction or operation of the flood control, navigation, or other projects. Each annual review would include geographically representative projects of all flood control, navigation, and other projects, constructed or assisted by the Secretary. Within 18 months and every 2 years thereafter, the Secretary would report to Congress on results of the reviews, including their recommendations.

Aquatic Ecosystem Restoration

Cost Share: The Secretary would be authorized to pay 75% of the cost share of projects and project components whose primary purpose is restoration of an aquatic ecosystem or a portion of an aquatic ecosystem. Any portion of the project's non-Federal cost share (including any portion of a feasibility plan) may be in kind, fairly evaluated, including a facility, supply, or service that is necessary to carry out the project. Non-Federal interests would not be required to provide all land or interests in land (including any right-of-way) with respect to the project. The Federal cost share of a project or component that is of critical national interest would be 100%.

Nationally Critical Projects: A project would be considered of critical national interest if it:

- provides national benefits by protecting and restoring the structure, function, and hydrologic regime of an aquatic ecosystem; and
- is located on Federal land or is approved by the Directors of the U.S. Fish and Wildlife Service, National Marine Fisheries Service, or National Park Service.

Reconnaissance Studies: Upon request of, and in coordination with, potential non-Federal interests and the Administrator of the Environmental Protection Agency; or the Directors of the U.S. Fish and Wildlife Service, National Marine Fisheries Service, or National Park Service, the Army Chief of Engineers may carry out reconnaissance studies for aquatic restoration projects of critical national interest. Fifteen million dollars are authorized for this purpose each fiscal year.

Recommended Projects: Congress may not appropriate funds for an aquatic ecosystem restoration project unless the project receives a favorable recommendation from the Army Corp's Chief of Engineers and the Secretary of the Interior under the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.).

Other Agency Contributions: In the case of aquatic ecosystem restoration projects assisted under this section, the Secretary would coordinate with the heads of other Federal agencies to determine whether conservation funds available to the agencies can and should be used to contribute to the project. The Secretary would include such funds as part of project design if the project is approved by the contributing agency. Such funds would be subject to cost-sharing requirements applicable to their source, not to this Act.

Land Ownership: For aquatic ecosystem restoration projects assisted under this section, land or an interest in land may be held or acquired by any person or instrumentality of government, including any Federal instrumentality, considered by the Army Corps of Engineers to be capable of fulfilling the responsibilities of holding and maintaining the land or interest in a manner necessary for successful project completion and operation.

Multi-Purpose Projects: If aquatic ecosystem restoration is only one project purpose, the provisions of this section concerning cost-sharing, consultation, and approval would apply to each project component justified in whole or in part by that component's contribution to aquatic ecosystem restoration.

Assessment of Benefits: For water resource projects carried out or assisted by the Secretary, fish and wildlife benefits would not be considered segregable benefits, but would be considered part of aquatic ecosystem preservation or restoration benefits.

Impact Assessments: Environmental evaluations of water resources projects carried out or assisted by the Secretary that affect the physical structure or hydrology of a river, lake, estuary, wetland, or any other component of an aquatic system, would be based on the project's impact on all functions of the aquatic system, including the impact on each aquatic organism and terrestrial organism that uses the aquatic system, on water quality, and on downstream and upstream hydrology. In carrying out such evaluations, the Secretary would consider the risk that the biological impact of an adverse alteration of the natural hydrology and physical structure of an aquatic system will be different and greater than the impact that can be predicted using scientific knowledge as of the date of the evaluation.

Mitigation: In the case of a water resources project that has an adverse effect on the natural hydrology or physical structure of an aquatic system, the focus of mitigation would be on efforts to restore the hydrology or structure of the natural system to replicate the acreage and functions lost or negatively impacted.

Technical Guidance: Within one year the Chief of Engineers of the Army Corps of Engineers, in consultation with the Directors of the U.S. Fish and Wildlife Service and National Marine Fisheries Service, and the Administrator of the Environmental Protection Agency, would issue technical guidance for implementation of this subsection.

Revision of Principles and Guidelines

The Secretary of the Army would establish an advisory council to be known as the "Principles and Guidelines Advisory Council" (PGAC) consisting of the Secretaries of Army, Interior, and Agriculture; and 3 members of the public with expertise in water resources planning. The PGAC would terminate within 18 months, unless it is temporarily extended by the Secretary after

consultation with appropriate committees of Congress. Within one year, in consultation with the PGAC, the Secretary would revise the Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies issued on March 10, 1983, by the WRC to:

- establish economic and environmental benefits as co-equal objectives of water resources planning, for the purpose of reviewing projects constructed by the Secretary;
- encourage enhancement of economic development; and
- encourage restoration and improvement of environmental quality through management, conservation, preservation, creation, restoration, and improvement of natural and cultural resources and ecological systems.

The Secretary would use the revised Principles and Guidelines to revise all planning manuals used by the Secretary for operation and construction of water resources projects as soon as practicable, but not later than 18 months after the date of enactment of this Act.

Recreation and Environmental Projects

In each fiscal year, the Secretary of the Army would provide for construction of small projects that:

- are for recreation and environmental restoration and related purposes;
- are not specifically authorized by Congress; and
- the Secretary determines are advisable.

The amount provided for such projects would be sufficient to complete Federal participation in the project, except that not more than $5,000,000 would be provided for a project at a single location. Also, the Secretary may not commit to any additional improvements, after project completion, to ensure the project's successful operation. And, the Secretary would not be required to prepare a survey or report prior to carrying out a project under this

section. From any amounts made available before, on, or after the date of enactment of this Act for general construction projects of the Department of the Army, the Secretary may allot $40,000,000 for each fiscal year to carry out this section. These funds would remain available until expended.

Cost Share for Recreation Projects

Section 103(c)(4) of the Water Resources Development Act of 1986 (33 U.S.C. 2213(c)(4)) is amended to raise the federal cost share from 50% to 75% and to allow determination of the non-Federal share to include the fair market value of any land, easement, right-of-way, dredged material disposal area, or relocation provided by the non-Federal interest.

Local Cost Share for Environmental and Recreation Projects

Section 203 of the Water Resources Development Act of 1992 (33 U.S.C. 2325) is amended to allow non-Federal interests to accept contributions of funds, materials, services, and other items of value, and in-kind contributions, as a portion of the non-Federal project cost share; and provide noncash contributions. Value of such contributions would be determined in advance by mutual agreement of the Army Corps of Engineers and the non-Federal interest. The non-Federal interest would pay not less than 5% of the non-Federal share in cash.

Rebuilding Recreational Facilities After Reservoir Drawdowns

If a recreational facility at a water resources project carried out or assisted by the Secretary of the Army becomes unusable or unsafe for more than 90 consecutive days because of water release or reservoir drawdown for any purpose, the Secretary of the Army may, at full Federal cost, restore the facility, or build a new recreational facility of a comparable level of development at the lower reservoir level. The Secretary would seek contribution for the Federal cost from any agency that directs or requests the water release or drawdown, including the Departments of Interior and Energy.

The Baucus Bill (S. 2418) thus includes many provisions critical to reducing flood damages and to the restoration of natural riverine ecosystems. Unfortunately, S. 2418, referred to the Senate Committee on Environment and Public Works on August 24th, was essentially killed for this year (in late September) by a coalition of senators, led by Robert Dole (R/KS) and Christopher Bond (R/MO). Reasons for this action included (1) the lateness of the session, (2) concern over "takings" of floodplain farmland, and (3) undoubtedly a desire to delay action until after the November elections.

However, S. 2418 remains under review at many levels of government, and efforts are underway to incorporate many of its provisions into a new Water Resources Development Act (WRDA), anticipated for passage either later this Congressional year or early next. Many revisions to the original language (summarized here) are expected during the legislative process.

At present there seems to be broad support for revitalizing the WRC, but under a new name, the Water Resources Coordinating Committee (WRCC); the latter to eliminate any political baggage that the WRC name may carry. There is also strong interest in using existing institutions, rather than creating the Coordinating Committees recommended by Baucus. The legislative process will undoubtedly continue over the winter, and river supporters, nationwide, will want to be involved!

Big Muddy Refuge

The first 4,500 acres of the, "Big Muddy Refuge", a national wildlife refuge along the lower Missouri River has been purchased by the U.S. Fish and Wildlife Service (FWS). The land called Lisbon Bottoms (2,300 acres) and Jameson Island (2,200 acres) lie just upstream for Interstate 70. The two tracts were severely damaged by the 1993 floods, and their former owners were denied help from the Army Corps of Engineers for levee reconstruction.

Winston Huttsell, Howard County Levee Commissioner, said most of the land was too severely damaged to put back into production. "It was cut into, had sand washed up and there were deep holes", he said. "It would have gone back to a wildlife area even if they (FWS) hadn't purchased it."

The FWS is also targeting lands where the U.S. Department of Agriculture has purchased flood easements under the Emergency Wetlands Reserve Program (EWRP). Under the EWRP farmers are paid about $700 per acre for flood easements. The FWS is prepared to pay up to $300 more per acre to gain fee title to the land.

The FWS plans to allow regrowth of bottomland forests, most of which had been cleared for agriculture. The purchase enables the FWS to preserve and restore the natural river floodplain, manage fish and wildlife habitats and provide for compatible public use. The land will also provide for conveyance and storage of flood waters during future floods, demonstrating the utility of open, green space in reducing flood losses.

Source: Columbia Daily Tribune, Columbia, MO, Sept. 28, 1994.

Harvesting Tax Dollars

Farmers were heavily impacted by the 1993 floods (especially floodplain farmers along the Missouri River), and the issue of floodplain use for private economic gain vs the public interest in reducing flood losses, maintaining green space, and enhancing environmental resources has become a national major controversy.

Representative Richard Durbin (D/IL), quoted in a recent St. Louis Post-Dispatch article, summed up a portion of the economic controversy as follows: "Some farmers were defrauding taxpayers of millions of dollars and jeopardizing the crop insurance program for honest farmers. They were planting crops in areas and at times of the year when they could not grow. The plantings were designed to harvest money from the Treasury, not crops from the field."

Durbin reached this conclusion after scanning computerized maps last year showing areas of the country where farmers planted and insured the same types of crops year after year, only to see them repeatedly fail, and then file for federal crop insurance payments on their losses. Crop insurance covers losses from flooding, drought, hail and other weather-related conditions.

Angered by such incidents, Durbin said Congressional and Department of Agriculture officials have put into effect a rule that farmers whose crops have failed 70% of the time or more would be declared ineligible for crop insurance. Or they would have the option of paying higher crop insurance premiums.

The crop insurance program has been buffeted by huge losses, fraud and faulty administration. An audit made public last September by the Agriculture Department's Office of the Inspector General estimated that private insurance companies had overpaid loss claims by as much as $82.8 million in crop year 1991 – or roughly 8.7% of the total $952.4 million paid to farmers. One research group estimated that since 1985, the crop insurance program has cost taxpayers nearly $10 billion more than farmers paid in premiums. Along the Missouri River this summer (1994) it was not uncommon to see crops planted in deep sands deposited by last year's flood; with seemingly little hope of successful production.

Nationwide, 1 of every 3 farmers bought crop insurance in 1993. In Missouri (the hardest hit state by the 1993 flood) only 24% of farmers participated, about 1% of farmers in St. Charles County (the hardest hit county) bought crop insurance. Time and again in recent years, Congress has undermined the crop insurance program by giving – under a separate program – billions of dollars in free disaster aid to farmers who didn't buy crop insurance.

Many farmers – already convinced that premiums were too high – responded by ignoring crop insurance. They gambled on the government bailing them out, and the evidence suggests they guessed right! In the six years from 1988 through the Great Flood of 1993, the federal government has paid $8.8 billion in disaster aid for crop losses. Farmers in Missouri and Illinois got $265.8 million and $501.8 million, respectively.

In the fall of 1993 the Soil Conservation Service (SCS) estimated that scour damages occurred on about 20% of the flooded cropland, and devastating damage at major levee breaks occurred all along the Missouri and Mississippi rivers. Some scour holes exceeded 50 feet deep and covered more than 50 acres. Seventeen hundred miles of drainage ditches were filled with sediment or debris.

All along the Missouri River floodplain, sand deposits stripped soil of its fertility. Cropland damages were estimated as follows:

- 455,000 acres (60% of Missouri River floodplain cropland were

damaged by sand deposits and scouring. The sand deposits total more than 546 million cubic yards;
- 237,000 acres (52% of the damaged acreage in the floodplain) were covered with up to six inches of sand;
- 77,500 acres (17% of the damaged acreage) were covered with 6-24 inches of sand;
- 59,000 acres (13% of the damaged acreage) were covered with more than 24 inches of sand; and
- 81,500 acres (18% of the damaged acreage) were damaged by scouring.

The SCS estimated reclamation costs as follows:

- Over $500 million to reclaim cropland by incorporating or removing sand deposits in the Missouri River floodplain alone;
- $190 per acre to restore fertility to flood-damaged cropland;
- $5.6 million to repair levee breaks on upstream tributary river systems and to secondary levees along the Missouri and Mississippi rivers. This estimate does not include the costs to repair mainstem levee breaks along the Missouri or Mississippi rivers; and
- $10.8 million to remove sediment and debris from ditches.

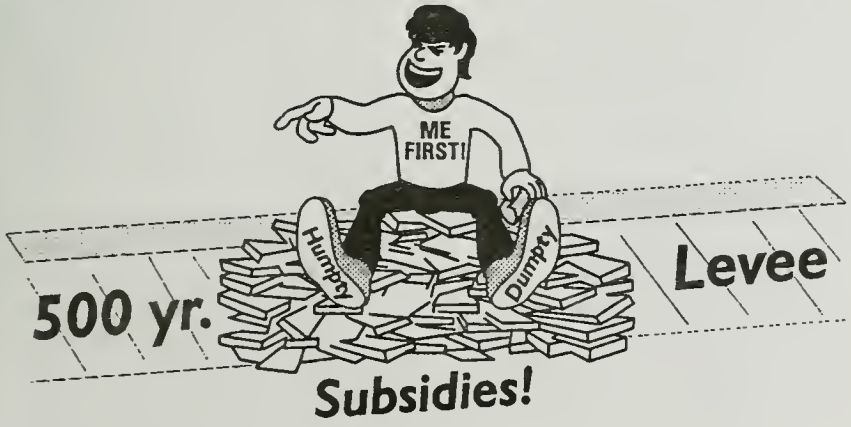
Instead of putting some of that land into green space and environmental use, it now appears that most "willing sellers" have disappeared, and instead, the government will subsidize restoration (at a cost of several hundred million dollars), essentially "putting Humpty Dumpty back together again". Humpty Dumpty has fallen off the shelf before -- during almost every major flood, and most certainly will fall off again with the next great flood (which could come as early as next year). Will we ever learn!

On a brighter note, Congress now appears ready to approve a revamping of crop insurance and disaster aid programs, both administered by agencies within the Department of Agriculture. The changes are expected to encourage more farmers to buy crop insurance and make it harder for Congress to continually bail out those who don't. Both the House and Senate versions would require the Federal Crop Insurance Corporation to offer farmers some protection against "catastrophic risk" for a fee of up to $100, and incentives for farmers to buy additional subsidized coverage. They also try to ensure broad participation in catastrophic coverage by requiring farmers to buy the insurance if they are to get federal subsidies and other farm benefits.

The reform bills also seek to erect a parliamentary hurdle that would make it harder for Congress to pass costly annual emergency disaster aid programs for crop losses. They would do this by requiring Congress, in the future, to cut the federal budget in order offset increased disaster spending. No such restriction has been in effect in recent years, and all disaster relief payments made for the 1993 flood were "off budget spending". In other words disaster spending had no effect on on-going government spending. Instead, the flood disaster payments simply contributed to the national debt!

The Baucus Bill (reported on in the previous article) addresses other parts of the issue, but (as reported) was put on hold in late September by a group of senators led by Dole (R/KS) and Bond (R/MO).

Sources: St. Louis Post-Dispatch by-line article by Louis J. Rose and USDA, Soil Conservation Service, Columbia, MO



North Dakota's Missouri The Way It Was/the Way It Is

Portions of the following are summarized from an article sent to us by one of our readers. It offers an alternate view of North Dakota's Missouri River -- "the way it was and the way it is".

Historians insist that if we are to understand and appreciate the present, and plan wisely for the future, we must be knowledgeable of the past. It has been 40 years since the Missouri River was shackled by large dams, and before we judge the present it is important to remember the river the way it was.

In the pre-dam era, the river began each new year at a very low level since winter rain was nonexistent and snow melt at this northern latitude was minimal. Winter river stages at Bismarck averaged only three to five feet. Low temperatures caused 3 to 4 feet of ice to form, or even more if little insulating snow was present. The frozen winter river became an important transportation artery, especially before we had our modern road and rail systems. Tracks were laid and trains crossed on the river ice at Bismarck until the bridge was built.

Spring was always a painful time for the river in North Dakota. Normally, thawing temperatures came sooner in eastern Montana than in North Dakota and large quantities of water filled the river when the North Dakota ice was still frozen hard and in no mood to move. Ice jams and sudden flooding resulted. Almost as if it wanted one last fling before being tamed, the river demonstrated how devastating ice jams could be in the spring of 1952, the last year before the Garrison Dam

was closed.

All the required conditions were present. High snow falls and early and sudden snow melt in eastern Montana, a very cold winter, low snow fall, a relatively high winter river level, and low spring temperatures in North Dakota resulted in a large amount of ice not easily moved. High flows from Montana attempted to move out the ice but merely caused an ice dam. Increasing water levels finally floated the ice dam a short distance downstream where the whole process was repeated. This continued throughout the entire state and into South Dakota. When the ice dam just north of Bismarck moved out, water flows at Bismarck reached 500,000 cubic feet per second (cfs) and a 27.9 river stage, the highest since 1917. Compare this to flows of 10,000 to 30,000 cfs and 5 to 13 foot river stage we now experience!

Flooding was severe along the Missouri River. Property damage on the high bottom lands was devastating. Most buildings, fences and other improvements were destroyed and most floated downstream. Many deer and other wildlife were unable to swim to high ground and were lost. However, because of ample warning by the weather bureau no human lives and few livestock were lost. The huge flood did serve one important function. It deposited water-borne soils on the land, thereby continuing the formation of the high bottom land.

Floods of this size were relatively rare. The past comparable ones occurred in 1881, 1884, 1887, 1910, and 1917. However, spring flooding was always possible and bottom land dwellers were very uneasy until the Missouri "went out".

The early spring runoff and the river ice break up came and went rather swiftly and the river returned to modest river stages. Snow melt in the mountains of Montana and Wyoming then began and the "June rise" of the lower Missouri resulted. Depending on the amount of mountain snows and spring temperatures, the June rise occurred from late May through July and caused river stages of about 10 to 14 feet at Bismarck. These levels did not flood most bottom land so it was not disruptive. However, the river carried a saturated amount of soils, and flooded wooded sand bars were rapidly aggregated. Much of the formation of new land occurred at this time. The ice jam floods, which happened only rarely, completed the building of the high bottom land. The high summer river levels and the inundating of sand bars prevented any nesting of shore birds such as Piping Plovers or Least Terns. This was not their natural habitat prior to 1953.

The fish population was what might be expected of this turbid river. Catfish, bullheads, carp, sturgeon, garfish, shiners, suckers, ling, sauger and occasionally a northern pike and walleye, which likely came out of some of the tributaries, made up the fishery. Like any mud bottom river, the Missouri eroded its banks and the main channel migrated within the river valley. But this process was gradual. Since the ice jam floods came in early spring when the river banks were frozen, little or no bank erosion occurred. The June rise caused most of the bank erosion. The water then was already saturated with suspended soil, so the ability of the water to carry away soil was limited. The formation of high bottom land by the June rise likely took hundreds of years.

The natural river was honest though. It always returned as much land as it took so the amount of high bottom land and channel always remained the same.

The natural river was forever changed with installation of the Pick-Sloan Missouri River mainstem dams. Congress had just authorized the Flood Control Act of 1944, and most North Dakotans were pleased with the Pick-Sloan Plan. They were told it would stop the devastating floods and provide affordable electric power for rural electrification in exchange for the 550,000 acres of land lost behind the dam. In addition, the project promised water needed in eastern North Dakota and development of 1.5 million acres with irrigation. Of course, hundreds of landowners and many small towns would be forced to sell their land and move. But this was an era of post World War II nationalism. Huge federal projects, such as the Tennessee Valley Authority, were being constructed. Most landowners relocated and towns moved with relatively little objection. There were few environmental constraints.

The Garrison Dam (Lake Sakakawea) was closed in 1953, the Oahe Dam (Lake Oahe) in 1958 and three smaller dams on the main stem in South Dakota were soon completed. The Missouri River was channelized from Sioux City to St. Louis at a cost of $750,000 per mile. This channelization provided for barge navigation, flood control, and complete streambank erosion protection for 500 miles of the lower river.

The mainstem dams, as providers of flood control, hydroelectric power and storage of water for recreation and navigation have been a great success. According to the Corps, approximately $75 million of hydroelectric power is generated annually. To date, $7 billion of downstream flood damages have been averted including $4 billion during the summer flooding of 1993. Except for the recent drought years, water was available for navigation and recreation needs.

However, several problems that affect North Dakotans do exist. We are all

familiar with the upstream-downstream water controversy. During drought years, North Dakota wants to retain its water for recreation and the downstream interests want it for navigation. During wet years North Dakota wants to get rid of excess water and downstream states want less. Perhaps this controversy will never be resolved to the satisfaction of all. However, North Dakota must strive to accommodate its best interests.

It is interesting to note that downstream navigation has not developed as originally projected. According to recent Corps of Engineer's analyses, it is of less economic value to the lower states than the recreation industry is to the upstream states! Navigation generates $16 million annually, while recreation generates $28 million for North Dakota, South Dakota and Montana.

Another serious problem is the development of deltas in the upper reaches of Lake Sakakawea and Lake Oahe. They are caused by deposition of river-borne soils where flowing river water meets still lake waters. The deltas cause rising river levels and higher water tables in adjacent lands. Deltas can cause or aggravate ice jam formations and subsequent flooding. Ice choked rivers have difficulty traversing the shallow water of the delta areas. Ironically, the recent drought and subsequent low lake levels, allowed the river to scour and deepen the river channel through the deltas, thus temporarily reducing effects of the deltas.

In the Williston area, high water tables caused by the deltas have ruined or endangered much irrigated land and are affecting the city's water plant intake. The Lake Oahe delta, south of Bismarck, is also raising water tables and may in the future, severely affect some adjacent land. There have also been moderate ice jam formation and flooding apparently caused or aggravated by the delta. There may be no economically justifiable method of curing the delta problem and it will increase in future years as the deltas continue to grow.

The 70 miles of free flowing river from the Garrison Dam to the Lake Oahe head waters have also been affected by installation and operation of the Pick-Sloan project. The first years after closure of the Garrison Dam saw the end of ice jams and June rise flooding.

The beautiful clear water discharged seems to have transformed the rampaging "Big Muddy" into an idyllic stream. The releases of clear water, which have the ability to suspend and carry large amounts of soil, have resulted in stream bank erosion and loss of hundreds of acres of valuable bottom land. Of course the Missouri River always eroded its banks and carried away soil. But, during the June rise and the occasional high ice jam floods, it always built back as much land as it took.

This bottom land replacement no longer happens. Now the erosion is quite swift with hundreds of acres of valuable bottom land being lost since Garrison's closure. With no high flooding and little water-borne supply of soil from upstream there are only low, almost useless sandbars being rebuilt.

The Corps of Engineers stated in their Report for Water Resources development of the Missouri River in 1977 that "this bank erosion results in a permanent net loss of high valley lands that are never replaced elsewhere in the valley as in the era before the reservoirs. High valley lands are being converted to river channel and sandbar areas while the width between the high banks continues to grow. This process, unless halted, would eventually transform the present river into a wide area of sandbars and channels, occupying an increasing portion of the valley width between the high bluffs."

Recognizing the problem, during the period from 1968 to 1976, Congress authorized and appropriated funds for bank protection projects. These appropriations were made during an era when water projects were more easily funded. These projects were never considered to be part of the Pick-Sloan project, and the Corps in spite of developing figures and reports on this reach, has never actively sought funding for its protection. The Corps continues to evade responsibility for correcting problems of the Pick-Sloan project.

Another interesting change in the river is the transformation of fish species. The cold, clear water has caused the demise of the catfish and carp types and in its place are the walleye, sauger and salmon species. Recreational fishing on the Missouri lakes and flowing river has developed beyond expectations. Water released from the bottom of the Garrison Dam is consistently between 34 to 40 degrees year around. This has reduced the river's winter ice thickness and prevented any use of the river during the winter because of the danger of thin ice.

Open water through the winter for several miles downstream from the dam entices ducks and geese to stay here longer into the winter. The birds may die when severe winter storms arrive. In the summer, the cold water does not warm enough to permit swimming even during August at Bismarck.

Since dam closure, the flowing river is changing. Any sandbars not covered by water in the summer months are rapidly covered with bar willows. These willows trap water-borne sediment at higher flows and gradually change sandbars into wooded areas. The result is a narrower channel with no bare sandbars exposed except during very low flows. Eventually, summer nesting habitat for the Least Tern and Piping Plover will no longer exist, just as before the era of dams.

Has the Pick-Sloan project been good for North Dakota? If the project had not been built the occasional ice jam floods would have discouraged any development in the valley except for agriculture and recreation. However those 550,000 highly productive acres would have had a significant positive

impact on our economy. The "settlers" along the flowing river now have flood control, and development has dramatically increased. However, development will be jeopardized or lost if bank erosion is allowed to continue and the Corps prediction of the loss of all high bottom land from bluff to bluff happens.

North Dakota has received few benefits from the promised Garrison Diversion Project. It does not receive an appropriate share of the hydropower produced at the dams, and the upstream/downstream controversy has not been resolved.

Regarding the latter issue, the Corps of Engineers has been holding public hearings up and down the River over the past few weeks on proposed changes to the Master (flow control) Manual. These changes would attempt to balance upstream and downstream interests, as well as enhance consideration for wetlands and endangered species issues.

In the past, downstream navigation interests have been the top priority, and at the hearing held in Jefferson City, Missouri Governor Carnahan (siting few specifics) called the Corps' plan "...a disaster to the environment, to agriculture, to energy conservation and to Missouri's long tradition of river commerce". At the same time Norm Stucky of the Missouri Department of Conservation said, "We applaud the Corps of Engineers for recommending an alternative that acknowledges the importance of the river's fish, wildlife and wetland resources". So the controversy over how the river should be used remains alive and well, even within the State of Missouri itself!

Arguments raised at the meeting against the plan suggested that any significant change in river management would entirely eliminate barge traffic. This may be true because the economics and justification for barge traffic (or lack of it) on the Missouri River has been coming under growing public criticism.

The basis for much of Missouri's criticism is a fear that upstream states will sell water out of the basin, as has been done in the west. However, North Dakota representatives present at the meeting testified that their state has no intention of selling water out of the Missouri River.

Farming organizations were said to have bussed in loads of floodplain farmers in to testify at the Jefferson City hearing. The American Fisheries Society comments on the Corps' preferred alternative suggests incorporating the following revisions to more closely duplicate lower Missouri River pre-development hydrology:

- A gentle rise in river stage in the spring through June to improve fish recruitment. The proposed operation does not encompass the spawning period of many of the Missouri River fishes...Spawning by riverine fish species is tied to water temperature and spring stage rises which trigger movements to spawning areas, provide access to backwaters, off-channel habitats and floodplain lakes, and allow movement back to the river by the adult fish,

- Reduce flows during the mid-summer to ensure fish recruitment. Young-of-the-year fishes require nursery areas of shallow, low velocity water in the summer and fall, and

- Increase flows in the fall during November to allow some nursery areas to reconnect with the river. If the fish reared in the spawning areas are not allowed back to the river, they may perish in off-channel areas as flows recede.

So the controversy continues, and isn't expected to end anytime soon.

Source: *North Dakota Water*, June 1994, from an article written by Andy Mork, Chairman of the Morton County Water Resource Board; Columbia Daily Tribune, Columbia, MO, Oct. 5, 1994; and Missouri Chapter American Fisheries Society.

Little Bighorn River Restoration

An 18-minute video prepared for the Environmental Protection Agency (EPA) shows techniques used for restoration of the Little Bighorn River channel and adjacent floodplain in compliance with an EPA issued administrative order, and in accordance with an EPA approved restoration plan. It also describes enforcement actions under taken.

A two mile reach of the River was bulldozed and channelized by the Sunlight Ranch in March and April 1987. The channel was straightened, pool and riffle complexes removed, and streambed gravel dikes constructed to contain river flow. Channel work was done without a Clean Water Act (CWA) 404 permit. EPA issued the Sunlight Ranch (e.g. Sinclair Oil Company) a CWA Administrative Order on May 5, 1987.

Using aerial photography the EPA documented the nature and extent of bulldozer work, and Sinclair hired a consulting engineer to prepare a restoration plan. EPA requested evaluation of the plan by federal and state agencies, the Crow Tribe, the Big Horn County Conservation District, and other interested parties. The final plan was approved and restoration began in March, 1989. On August 22, 1989, EPA notified Sinclair that the restoration was undertaken and completed in accordance with the EPA-approved restoration plan, resolving the issue of mandatory CWA relief.

Subsequently, the U. S. District Court in Montana ruled that the defendant had discharged material into navigable waters without a 404 permit in violation of the CWA and found Sinclair liable for violation of this statute. Finally on August 28, 1991, the Court issued a consent decree ordering that Sinclair pay a civil penalty in the amount of $15,000.

River floodplain restoration involved restoring the meandering characteristics of the channel, constructing pools, riffles, and gravel bars, protecting eroding stream

banks, and reestablishment of streamside and floodplain vegetation.

For more information contact: John C. Peters, Environmental Protection Agency, Region 8, Denver, Colorado.

Large Dams, False Promises

Large Dams, False Promises is a video recently released through coordination of the International Rivers Network. The video exposes the devastating impact of large dams, now being built at a rate of over 200 a year throughout the world, causing immeasurable destruction to riverine ecosystems.

By bringing together the work of more than a dozen international film makers, "Large Dams, False Promises" documentary producer David Phinney delivers a pointed commentary on this continuing tragedy through the stories of India's Sardar Sarovar Dam, Brazil's Balbina Dam and China's planned Three Gorges Dam.

Combined with observations from Goldman Environmental Prize recipients Medha Patkar and Dai Qing, as well as other notable environmentalists, "Large Dams, False Promises" also challenges the common assumption that these dam projects provide low-cost electricity and efficient water management – the principal reasons used by special interests who rush to complete such projects with little regard for their long-term human and ecological consequences.

For more information contact: International Rivers Network at (510) 848-1155. Videos cost $30 each.

Landowners vs. Endangered Species

In an ongoing attempt to insulate the Endangered Species Act from landowner criticism, Interior Secretary Bruce Babbitt announced a new series of reforms on August 11. The new policy assures that when landowners agree to set aside land for endangered species under a habitat conservation plan, the government cannot seek additional concessions so long as the plan is in effect, even if a species' needs changes over time. The term of a habitat plan can last as long as several decades.

"We're telling landowners that a deal is a deal," Babbitt said. "The key issue for non-federal landowners is certainty." Babbitt said. "They want to know that if they make a good faith effort to plan ahead for species conservation, and do so in cooperation with the relevant agencies, then their plan won't be ripped out from under them many years down the road." The new policy allows the department to make changes to a conservation plan only in the face of "extraordinary circumstances." If further mitigation is deemed necessary to provide for the continued existence of a species in the wild, the primary obligation for such measures will rest not with the plan's adherents but with the federal government.

The move received broad praise from environmentalists and industry leaders. Babbitt and environmentalists hope the move will encourage developers to willingly enter into habitat conservation plans. "Successful habitat conservation plans are win-win situations," said John Sawhill of The Nature Conservancy. "Economic activity continues and our heritage is protected for future generations to enjoy." Since property rights issues have dominated Endangered Species Act discussions this year, many environmentalists endorse the move while others are more cautious.

Business interests, however, have hailed the move as a strong first step, but many leaders are seeking more sweeping reforms of the law. Nancy Macan of the National Endangered Species Act Reform Coalition stressed the need to see the details of the policy before proclaiming a victory for landowners. "One concern that I still have is for the small landowners" who may lack the resources to go through the habitat conservation planning process. "We're pleased that Interior is working on it and we're anxious to see the details," she said.

While the administration continues to seek ways to make the Endangered Species Act more "user-friendly," opponents of the act are weighing in earlier in the process and voicing strident opposition to proposed listings and designations of critical habitat.

The Interior Department is expected to announce additional reforms in anticipation of the Endangered Species Act's reauthorization next Congress.

Source: Land Letter, Vol. 13, No. 23

Grazing Hearings

Another round of public hearings on the Interior Department's controversial rangeland reform proposal concluded in July, with no signs of compromise in sight. At four field hearings sponsored by the Senate Energy and Natural Resources Committee, ranchers turned out in force to voice opposition to the plan released in revised form by Interior Secretary Bruce Babbitt in March.

With the public comment period closing July 28, the Interior Department on June 8 sponsored 48 hearings of its own simultaneously at sites across the West. While ranchers dominated those hearings as well, the administration intends to continue to pursue reform plans this fall.

"This is not a voting situation," said George Ramey, a Bureau of Land Management range conservationist. "What emerges [from the process] will be real reform." During the hearings, ranchers spoke out against the plan's proposed grazing fee hike, government ownership of range improvements, government water rights, surcharges on leasing grazing land to other ranchers, and the make-up of new grazing advisory boards.

Despite criticism, the final plan will

look very similar to what is now on the table, Ramey said. Emphasis will be on improved range standards and guidelines, ecosystem management, and more efficient prosecution of "habitual violators" of stewardship standards. Currently it can take years to rescind a permit and oust a negligent rancher from the land, Ramey said.

While Westerners continue to claim that Babbitt is not listening to them, the Secretary "has recognized that grazing has done a lot for the land" when it is managed properly, Ramey said. A Congressional report commissioned in 1936 (during the dust bowl days) rated the health of rangeland conditions and found that 1.5% were "excellent," 14.3% "good," and 36.3% "poor or bad." A similar

1992 report, however, now ranks 4% in excellent condition, 33% in "good" condition and 13% poor. The trend for more than 18% of rangelands is an improving one, Ramey said, an indication that grazing and ecosystem health can go hand-in-hand.

Since its August 1993 release, the reform plan, which aims to bring federal grazing fees closer to market value and further improve rangeland ecosystem health, has been under constant fire from Western ranchers and legislators. A compromise legislative package was the subject of a Senate filibuster last fall, prompting Babbitt to offer a revised proposal in March.

Grazing fees, currently $1.98/animal unit month (AUM), would rise to $2.75/AUM next year, $3.50 in 1996 and $3.96 by 1997 under the plan. The third-year increase will not go into effect until the department develops an incentive-based fee system that would give ranchers who met higher environmental standards a 30% discount, to $2.77/AUM. Once scrapped because of concerns that it would be too difficult to administer, Babbitt resurrected the incentive idea at the request of ranching interests.

However, fourteen Western senators sent a letter to President Clinton on July 15 urging withdrawal of the plan. The letter, circulated by Sen. Conrad Burns (R/MT), reminds Clinton of his pledge to a Wyoming rancher to "take no steps that would drive ranchers off the lands." The letter quotes Clinton as saying, "I've made it clear to those working in this Administration that we should take no steps that would drive small ranchers off the land." But Burns claims the fee increase and costly regulations would do just that as many would be forced to default on their Farmer's Home Administration loans.

Western banks are reluctant to give new loans to ranchers, said Jon Doggett of the American Farm Bureau Federation. "The big cost here is not the fees but the regulations," he said. "We're opposed to the secretary's plan. He needs to scrap the whole thing. We don't see anything in the package that will enhance natural resources." Sheep farmers will be "wiped out" if the fee increase goes forward, he said.

The Interior Department will spend the next few months analyzing comments before issuing a final environmental impact statement in late fall and a final rule before the start of the 1995 grazing year in March.

Source: Land Letter, Vol 13, No. 22

Wisconsin Grazing Cost-share

The Wisconsin Department of Natural Resources (DNR) reports that intensive grazing management or rotational grazing systems are now eligible for cost-share funding for their state's farmers involved in Priority Watershed Program projects. According to the DNR, this practice can benefit water quality through reductions in soil loss, phosphorus, and organic loads from animal lots. In addition, it usually replaces row crop fields with permanent sod.

The DNR considers rotational grazing an alterative Best Management Practice (BMP), and makes decisions about eligibility on a case-by-case basis. Because rotational grazing systems usually involve extensive on-farm management changes, the DNR pays particular attention to the landowner's ability to manage such a system.

The cost-share can be applied to Wisconsin croplands that are currently contributing sediments, nutrients, or pesticides to a water resource. The practice involves a number of restrictions: streambank erosion and habitat degradation must be addressed; a grazing management plan must be developed for paddocks within riparian areas to control livestock access during critical periods; and grazing of previously ungrazed woodlots is not allowed.

At the same time, exclusion of livestock from woodland, wildlife habitat, and recreational areas is encouraged. Components eligible for cost-sharing include access lanes (including cattle crossings), fencing, pasture and hayland planting, watering systems, critical area planting, and gates. Cost-sharing is 50% and is subject to a maximum state cost-share limit of $2,000/watering system.

The University of Wisconsin Extension (UWEX) offers a rotational grazing publication, *Wisconsin Pastures for Profit: A hands-on guide to rotational grazing* (pub. A3529). Order from UWEX Publications, Rm. 245, 30

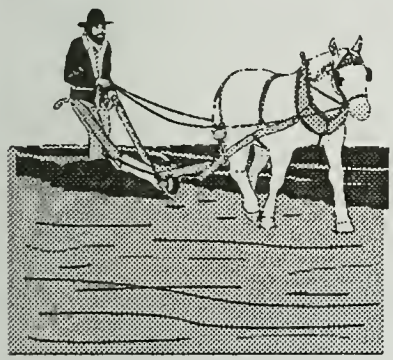
North Murray St., Madison, WI 53715. Cost $2.25 plus $1.05 postage.

For additional information on Wisconsin's cost-share program contact: Don Baloun, DNR, Water Resources Management, 101 S. Webster, Madison, WI 53707. Phone: (608) 264-9222. FAX: (608) 267-2800.

Pennsylvania Manure Marketing

High land values for Pennsylvania's small farm, intense livestock operations have forced farmers to increase animal units per acre, increasing the amount of animal waste per acre used.

Crop producers in Pennsylvania's Lancaster County needed a source of nutrients for their crops. So to bring supply and demand together, Penn State Extension developed a manure marketing program as part of the Rural Clean Water Program and the Chesapeake Bay Program.



Lancaster County farmers who supply or would like to receive manure are now participating in supplier/receiver lists that facilitate manure marketing transactions, according to Extension Agent Leon Ressler. Developed to promote redistribution of manure nutrients, the lists now include almost three times as many receivers as suppliers.

Farmers on the lists reported transferring 16,270 tons of manure in 1991; that amount increased to 19,040 in 1993. Twenty-five percent of the suppliers are able to custom-apply the manure; 33% are willing to supply the manure free if the receiver picks it up; 49% of the receivers are willing to pay for the manure; and 39% are interested only if the manure is free.

In central and east central Pennsylvania, 168 farmers interested in exporting or importing manure are listed in another manure marketing directory published by the Extension Service, according to Montour County Extension Agent Phil Durst. The ratio of farmers interested in importing manure to those interested in exporting it is 142:26.

The manure marketing directory also lists custom manure haulers and nutrient plan preparers, as well as components of a nutrient management plan and sources for soil and manure test kits.

A telephone survey of custom haulers, exporters, and importers one year after distribution of the directory highlighted the need for educating potential participants about the economics of hauling manure. The extension agent calculated that the value of the available primary nutrients, even in liquid manure, significantly exceeds the cost of custom hauling within at least a five-mile radius from the point of storage. The survey also revealed that, although poultry manure is more marketable because of its lower moisture content and higher nutrient concentration, 60% of the farmers interested in importing manure were interested in any type of manure.

As a follow-up to the multi-county manure marketing directory, the Extension Service, conservation districts, key leaders in the farm communities, and the Agricultural Stabilization and Conservation Service cooperated in planning and conducting nutrient management workshops. Each participant in the workshops received a prepaid manure analysis kit and a packet of five soil test kits to encourage them to start a three-year plan to soil test all of their farm fields.

For more information on the Lancaster County Program contact: Leon Ressler, Extension Agent Agriculture/Environment, Lancaster County Cooperative Extension, 1383 Arcadia Road, Room 1, Lancaster, PA 17601-3149. Phone (717) 394-6851. FAX: (717) 394-3962. For information on the multi-county program contact: Phil Durst, Extension Agent Dairy and Manure Management, 114 Woodbine Lane, Suite 102, Danville, PA 17821. Phone: (717) 275-3731. FAX: (717) 271-3031.

Source: July/August 1994, Issue #37, Nonpoint Source News Notes

Nebraska Buffer Strip Research

Researchers at the University of Nebraska-Lincoln have been studying how riparian buffer strips affect the amount of contaminants entering streams during storm runoff. In cooperation with the Lower Platte North Natural Resources District and EA Engineering, Science, and Technology of Lincoln, researchers have been sampling four sites, each located on a small tributary in the Loseke Creek watershed north of Columbus. Riparian cover on the sites ranges from dense to none.

Kyle Hoagland, aquatic ecologist in the Institute of Agriculture and Natural Resources, and Marian Langan, research assistant and graduate student in biological sciences, tested stream water at sites during normal flows and analyzed samples for pesticides, nitrogen, phosphorus, and other contaminants. They found relatively few compounds at relatively low levels, typically less than 1 part per billion (ppb) in the water and sediments, according to Hoagland.

But when the researchers took storm runoff samples before field application in May and after application in June,

they saw high levels of more than one pesticide compound at the site with no riparian cover. One sample contained more than 600 ppb atrazine, more than 600 ppb alachlor, and more than 100 ppb cyanazine. That sample contained nine different pesticides. The U.S. EPA's maximum contaminant level for atrazine is 3 ppb.

"There appears to be a loose correlation between riparian cover and pesticide levels; the more riparian cover, the less pesticides in the stream," Hoagland told the Lincoln (Nebraska) Journal-Star in a news article on the research. Conclusions are at best preliminary, Hoagland said. The project, which has received funding for a third year, also seeks to identify variations in riparian zones in size, width, plant species, and composition. This will help researchers investigate how effective riparian vegetation is in preventing water pollution.

Another Institute of Agriculture and Natural Resource project is examining the little-studied synergistic, or combined, effect of more than one pesticide on stream communities.

For more information contact: Kyle Hoagland, Department of Forestry, Fisheries, and Wildlife, University of Nebraska, 101 Plant Industry, Lincoln, NE 68583-0814. Phone: (402) 472-2944.

Iowa Buffer Strip Research

A study funded by the Aldo Leopold Center for Sustainable Agriculture looked at riparian buffer strips as part Best Management Practice (BMP), part restoration project. The study entailed starting from scratch to develop buffers using native species of trees and prairie grasses.

Such a buffer, termed a *constructed, multi-species, riparian buffer strip*, was planted in a 66-foot-wide border between crop fields and Bear Creek, a third-order stream in Story County, Iowa. Beginning at the crop field edge and moving toward the stream, the buffer strip includes a 24-foot wide strip of native prairie grass, two rows of shrubs, and four rows of trees.

Richard Schultz, multidisciplinary study team leader, is now monitoring the zone to see if it can function as a multi-purpose, economically feasible, environmentally beneficial land use. It should, Schultz explained, function as a BMP, also yielding wood products while providing additional environmental benefits, such as increased biodiversity for wildlife habitat, sequestering of carbon for reduced global warming and improved aesthetics in a rather sterile agricultural landscape.

The multi-disciplinary study team carefully selected plant materials to perform specific functions within the structure of the buffer strip as well as to provide potentially marketable products. A primary characteristic of most of the selected species is rapid growth, which allows restoration of a riparian community in the shortest possible time.

The team chose willow, cottonwood hybrids, and silver maple for the rows closest to the creek to improve bank stability and take up agrichemicals. These fast-growing trees will be harvested on an 8-12 year rotation and will resprout from the stump, leaving the root system intact and the soil undisturbed. Slower growing, high quality hardwoods like red oak and black walnut may be planted for timber in the outside rows, depending on soil type and owner objectives.

The shrub rows develop a perennial root system, and their multiple stems slow floodwaters. Researchers chose shrub species that enhanced biodiversity and wildlife habitat, but some species, such as hazel, can be harvested for their nut crop.

Wildlife can benefit from the cover and food provided by the diverse plant community. "We are developing corridors that are favored by edge species of wildlife. In an agricultural landscape management scheme, these corridors would, ideally, connect larger tracts of perennial plant communities which would provide habitat for interior species. However, in the Cornbelt region of the Midwest, these corridors might provide the only respectable wildlife habitat in the county," Schultz acknowledged.

In the outer rows of the buffer, native, non-bunch prairie grasses and woody plants penetrate the soil with deep, extensive, well-established root systems that stabilize the riparian zone, increase infiltration of runoff, and help restore soil structure. Above the ground, their dense, stiff stems slow runoff, reduce flooding, and trap eroding sediment.

Less clear is the impact of the buffer strip on nitrates and atrazine. Initial soil water quality data indicate that the buffer strip is producing a zone of lower agrichemical concentrations along the creek. The study team has not yet clearly established the processes responsible for these reductions, but they suspect that plant uptake, microbial activity, and soil immobilization play roles. Effects on the stream are complicated by field drainage tiles, which carry water rapidly under and through the buffer strip.

To address this problem, researchers constructed a small cattail wetland at the end of a field tile in the spring of 1994. They are now collecting inflow and outflow water samples to determine how well the wetland can reduce agrichemical concentrations.

Researchers also successfully used a system of willow posts and cuttings inserted directly into the streambed and streambank to immediately strengthen some eroding banks. The willow post system proved its worth by dramatically reducing erosion during the 1993 floods. Along vertical streambanks, bundles of dead trees are staked into the bank to protect it while willow cuttings planted among them become established.

In addition to water quality benefits, bank stabilization, and habitat for aquatic and terrestrial animals, the researchers think the buffer zone will provide economic benefits to

landowners. Some hardwoods could be slated for timber harvest. Hazelnuts are another potentially marketable product. One of the most promising future markets is, according to Schultz, fuel biomass. "Presently, biomass can be used on-farm, but ethanol can be produced from woody plants and switchgrass, and biomass can be mixed with coals to co-fuel power plants. Our buffer strip model can produce large quantities of biomass, and we think the markets for this are getting closer and closer," said Schultz.

According to the final report, the tree and shrub zones can be combined, and the buffer design can easily be adapted to the USDA riparian buffer strip recently approved for cost-sharing on agricultural lands or that suggested by the Forest Service for the northeastern states.

A number of other cost-share programs can also fund a buffer strip based on this model. The economist on the team estimated that the installation would cost between $350 and $400/acre. A mile-long, 66-foot wide strip on both sides of a stream occupies only 16 acres of land, and along meandering streams, much of this land cannot be efficiently row-cropped, according to the researchers.

Now in its fifth growing season on the property of a cooperating farmer, the strip will need to be monitored for at least 10 to 15 years to fully understand how it works. More research is needed to identify and quantify the processes responsible for agrichemical and sediment reductions, and a longer stretch of buffer strip should be installed to identify impacts on the instream ecosystem.

"The ability of this riparian plant community to modify soil, trap sediment, sequester carbon and agrichemicals, and provide wildlife habitat is far superior to riparian zone communities consisting of annual crops, such as corn or soybeans, or pastures composed of cool-season grasses," Schultz said.

For more information contact: Richard C. Schultz, Department of Forestry, 251 Bessey Hall, Iowa State University, Ames, IA 50011, (515) 294-7602, FAX (515) 294-2995.

Source: July/August 1994 Issue #37, Nonpoint Source News Notes

Compromise Fails On Mining Reform

House conferees were optimistic that their latest compromise position would yield agreement on mining reform, but key Western senators and mining industry officials remained opposed.

Since June 29, House and Senate conferees worked with Chairman J. Bennett Johnston's (D/LA) draft bill, but the measure received little support. Consequently, Johnston negotiated with Western senators through July and revised his mark August 2 to address some of the mining industry's concerns. House Natural Resources Committee Chairman George Miller (D/CA) unveiled a counter offer August 5 that was immediately panned by Western senators. Western Republicans on the conference committee threatened to filibuster any reform bill, including Johnston's mark, that could result in a loss of jobs for the region.

On August 16, Miller presented an offer he characterized as close to final to Johnston and a group of reform-minded senators led by Sen. Dale Bumpers (D/AR), aides said. The House's latest version removed language opposed by industry that would give federal managers authority to determine whether lands are suitable for mining. In its place, Miller proposed giving federal agencies the authority to impose conditions on mine operators during the permitting process, particularly when mining activities pose a potential hazard to "national conservation units." Such units include national parks, forests, wilderness areas, monuments, and wild and scenic river system lands. The mining industry opposed the provision.

The August 16 offer also included new royalty language. Miners would be assessed a 5% gross royalty on the value of the minerals they produce. Earlier drafts established a 5% minimum royalty tied to the price of the commodity. The mining industry agrees some royalty should be imposed, but they maintain that Miller's provision will put some operators out of business. The Miller bill remains firm on ending the mineral patenting program and setting minimum federal cleanup standards for mine operations. Johnston's latest mark would allow some patenting to continue.

The conferees tried but failed to reconcile widely-disparate reform bills passed in the two chambers this spring. Mining on public land is still governed by an 1872 law that permits prospectors to patent, or take title to, federal land and minerals for as little as $5.00 an acre without paying any royalty for the resources.

Source: Land Letter, Vol. 13, No. 23

Gramm Introduces Tough "Takings" Bill

Senator Phil Gramm (R/TX) on August 19 introduced the most sweeping private property rights protection bill yet. S. 2410 would require governments to compensate private landowners whenever regulations reduce property values by 25% or $10,000 or more. Gramm was joined in introducing the bill by Sens. Conrad Burns (R/MT), Larry Craig (R/ID), Dirk Kempthorne (R/ID), and Richard Shelby (D/AL).

"This bill is just what the American property owner has needed for some time," said Nancie Marzulla of Defenders of Property Rights. "It allows people to use their property in a responsible manner without having to live in fear that the government can take it away without paying for it." Property rights guru Rep. Billy Tauzin's (D/LA) version would require compensation when 50% of land value is lost to regulation.

Source: Land Letter, Vol. 13, No. 23

Hunting and Fishing Safe on Wildlife Refuges

Seeking to reassure lawmakers as they consider overhauling the National Wildlife Refuge System, Fish and Wildlife Service (FWS) Director Mollie Beattie pledged not to ban hunting and fishing on wildlife refuges during a House Merchant Marine subcommittee hearing on August 9.

While the FWS is attempting to weed out blatantly incompatible uses, such as military bombing and mineral activities, hunting and fishing generally will not be affected. The Senate is scheduled to take up consideration of Sen. Bob Graham's D/FL) S. 823 which is designed to provide guidance and direction for the refuge system. The system includes 500 refuges, and 51 coordination areas, encompassing 91 million acres across the country. Currently, no refuge bill mark-ups are scheduled in the House.

Source: Land Letter, Vol 13, No. 23

FWS Announces Recreational Fisheries Changes

At the Outdoor Writers Association of America (OWAA) meeting in Orono, Maine, FWS Director Mollie Beattie announced that the FWS is proposing to create a Branch of Recreational Fisheries. The new branch is intended to be the FWS's liaison with the sport fishing constituency and will promote the overall conservation and enhancement of the nation's sport fisheries. The branch also will work closely with sport fishing organizations and the industry to promote fishing opportunities and aquatic education and outreach.

Director Beattie noted that the FWS has a continuing mandate to support recreational fishing within the framework of the FWS's overall mission to conserve the nation's aquatic ecosystems, and the Branch of Recreational Fisheries will help better meet this mandate and serve to provide fishing and aquatic education opportunities to our nation's increasingly urban population. "We especially hope to give children in urban areas more opportunities to fish and to learn about aquatic resources," Beattie said.

In another important message regarding the Endangered Species Act, Director Beattie said, "In short, endangered species must be seen as indicators of trouble in the natural systems that support wildlife, game and non-game alike, so the protection of endangered species and the restoration of their habitats will mean, in the long run, more sustainable hunting and fishing.

At the same time, however, I don't want to leave the impression that I think everything about the Endangered Species Act is working smoothly. The FWS must do a better job of administering the Act. For whatever reason, previous Administrations have not taken advantage of the flexibility Congress built into the Act. In no small part, this has had the effect of delaying actions to conserve species until the populations were so low that there is what Secretary Babbitt calls a "train wreck" – a point at which a species and its habitat are so depleted, you have no choice but drastic action to conserve whatever is left.

The Endangered Species Act includes a number of provisions that allow the Service to work with landowners to balance economic and conservation needs. I also believe that in many cases we can use these kinds of agreements to balance stocking of recreational fisheries with protection of endangered species. I am aware there is a lot of concern about limits on stocking because of endangered species, particularly in the Southwest, where a large percentage of the recreational fisheries is based on introduced species. We have had to halt some our stocking programs in that Region while we evaluate the effect on native fishes. While I regret this, it is a fact that we cannot ignore the impact of our fish stocking activities on endangered species any more than we could ignore the impact of a dam or a major water diversion. We are committed, however, to working closely with the states and our other partners to find ways to make the restoration of endangered species compatible with recreational fishing programs."

Source: ASA Bulletin No. 453 May/June/July 1994

Ecological Restoration Proceedings Issued

Symposium on Ecological Restoration, the proceedings of a conference held March 2-4, 1993, has been published. Containing 33 papers by many leading experts in the field, the publication provides an overview of the issues surrounding ecological restoration.

The document is available by contacting the Watershed Branch (4503 F), U.S. EPA, 401 M St. SW, Washington, DC 20460. Phone: (202) 260-7074. FAX: (202) 260-7024.

Source: July/August 1994 Issue #37, Nonpoint Source News Notes

Rivers Handbook Volume 2 Published

The Rivers Handbook Volume 2, edited by P. Calow, University of Sheffield, and G.E. Petts, Loughborough University was recently published. In two volumes, The Rivers Handbook provides a comprehensive reference and guide to application of ecologically sound practices in waterways management.

Volume 1: Hydrological and Ecological Principles begins with an overview of river systems, covers the physicochemical environment and describes the various biota and their importance in rivers, from microorganisms to vertebrates.

Volume 2: The Science and Management of River Environments develops the scientific principles expounded in the first volume into the sphere of practical management. Its chapters are divided into five broad sections covering: perturbations and biological impacts; monitoring programs; modelling, forecast and prediction management options; and case studies.

Available from Blackwell Scientific Publications the two-Volume Set is priced at $290.00.

Meetings of Interest

October 31-November 5 Managing Water Resources in the 21st Century: Finding Workable Solutions, Orlando, FL. Contact NALMS, 1 Progress Blvd., Box 27, Alachua, FL 32615. (904) 462-2554.

November 13-16, 1994: "Dredging '94", Buena Vista Palace, Buena Vista, FL. Contact E. Clark McNair, Coastal Engineering Research Center, U.S. Army Corps of Engineers, Waterways Experiment Station, 3909 Halls Ferry Rd., Vicksburg, MS 39180-6199; (601) 634-2070.

November 14-16, 1994: "Watershed WISE: A Workshop on Watershed Protection", Grand Junction, CO. Contact Susan Foster, Thorne Ecological Institute, 5398 Manhattan Circle, Suite 120, Boulder, CO 80303. (303) 499-3647, FAX (303) 499-8340. Objectives are to encourage and support practical and effective approaches to watershed stewardship, and to share experiences and exchange ideas, tools, technology, philosophy, and values useful to watershed initiatives.

November 16-18, Watersheds '94: Respect, Rethink, and Restore: Watershed Management Council Symposium, Ashland, OR. Contact Hannah Kerner, University of California, ESPM Extension, Forestry, 163 Mulford Hall, Berkeley, CA 94720, (510) 642-2360. The conference will address issues of integration and communication in watershed management and will demonstrate understanding and respect for the functions and values of watersheds.

December 4-7, 56th Midwest Fish and Wildlife Conference - The Future of Fish and Wildlife Is Now, Indianapolis, IN. Contact Debbie Fairhurst, Division of Fish and Wildlife, Atterbury Fish & Wildlife Area, Edinburgh, IN 46124, (317) 232-7535.

February 23-24, Water, Nitrogen, and People: An International Conference, Everett, WA. Contact Craig MacConnell, Washington State University Extension, Whatcom County, 1000 North Forest St., Suite 201, Bellingham, WA 98225-5594, (206) 676-6736. Focuses on sustainability of the water resource and understanding the effect of nitrogen on water. Targets health officers, land use planners, public policy makers, agricultural commodity groups, environmental groups, tribes, local governments, conservation districts, and agricultural and water quality professionals.

February 28-March 3, International Erosion Control Association's 26th Annual Conference and Trade Exposition, Atlanta, GA. Contact John T. Price, IECA Program Chair, Price & Company, Inc.,425 36th Street, SW, Wyoming, MI 49548, (616) 530-8230, FAX (616) 530-2317. Topics include policy and management practices, methods and techniques, case histories, research and development, product introduction, and special topics.

April 3-7, 1995: "National Wetlands Workshop", Clarion Hotel, New Orleans, LA. Contact U.S. Army Engineer Waterways Experiment Station, Wetlands Research & Technology Center, Attn: CEWES-EP-W, 3909 Halls Ferry Road, Vicksburg, MS 39180-6199, (601) 634- 2569/ 4217; FAX (601) 634-3664.

May 14-18, Water Resources at Risk - 1995 Annual Meeting of the American Institute of Hydrology, Denver,CO. Contact James R. Kunkel, Advanced Sciences, Inc., 405 Urban Street, Suite 401, Lakewood, CO 80228, (303) 980-0036, FAX (303) 980-1206. Purpose is to describe issues, management strategies, and technologies in hydrology, hydrogeology, and mining hydrology. Conference will feature sessions on subjects of current concern in hydrology, poster sessions, short courses, and field trips.

May 31-June 2, 1995: "East Coast Trout Management and Culture Workshop II", Penn State University, State College, PA. Contact Marty Marcinko, 450 Robinson Lane, Pennsylvania Fish Commission, Bellefonte, PA 16823, (814) 359-5223. Theme of the workshop is "Looking to the Future: How Can We Meet the Need?", Co-sponsored by the American Fisheries Society's Northeastern Division and Southern Division's Trout Committee, Duke Power Co., National Park Service, Pennsylvania Fish Commission, and Tennessee Valley Authority.

June 5-9, 1995: "Sustainable Forests: Integrating the Experience International Conference", Sault Ste. Marie, MI, and Sault Ste. Marie, Ont. Contact Joan Jaffit, Conference Manager; (705) 759-2554; FAX (705) 256-6156.

June 12-14, 1995: "Third Reservoir Fisheries Symposium", Chattanooga Marriott at the Convention Center, Chattanooga, TN. Contact Steve Miranda, Chair, Third Reservoir Fisheries Symposium, Mississippi Cooperative Fish and Wildlife Research Unit, P.O. Drawer BX, Mississippi State, MS 39762; FAX (601) 325-8726.

July 16-19, Interdisciplinary Conference on Animal Waste and the Land-Water Interface, Fayetteville, AR. Contact Patti Snodgrass, Arkansas Water Resource Center, 113 Ozark Hall University of Arkansas, Fayetteville, AR 72701, (501) 575-4403, FAX (501) 575-3846. The purpose of the conference is to provide a forum for interdisciplinary, holistic discussion of animal waste, soil and water interactions. Proposed topics include waste characteristics and edge-of-field losses, impact on stream and lake ecology, watershed management, BMPs, alternative uses, regulatory vs. voluntary programs, and socio-economic considerations.

September 28-30, Watersheds '94 Expo. Bellevue, Washington. Contact Andrea Lindsay, U.S. Environmental Protection Agency WD-125, 1200 Sixth Ave., Seattle, WA 98101; (800) 424-4EPA.

Congressional Action Pertinent to the Mississippi River Basin

Agriculture

On August 2, a House Agriculture panel held a hearing on the costs of extending the Conservation Reserve Program, and on August 11 a hearing to review the status of conservation compliance provisions for the 1985 Food Security Act.

S. 2437 (Conrad, D/ND) amends the 1985 Food Security Act to extend, improve and increase flexibility and conservation benefits of the conservation reserve program.

Forests

S. 2383 (DeConcini, D/AZ) authorizes the Agriculture Department to establish and carry out a sustainable ecosystem and economies demonstration program to promote ecosystem management on national forest lands.

H.R. 5007 (LaRocco, D/ID) to authorize the Agriculture Secretary to use stewardship contracting under which receipts from the sale of timber and other forest products from the forest system lands would be used for the improvement and restoration of healthy forest ecosystems.

Government Affairs

On August 11, a House Government Operations panel approved for full committee action **H.R. 4771**, which aims to reduce the number of unfunded federal mandates that are imposed on state and local governments.

Mining

By a 318-to-64 vote on September 13, the House agreed to a Rep. Ralph Regula (R/OH) motion to instruct Interior Department appropriations conferees to insist on a provision that imposes a one-year moratorium on the patenting of hardrock mineral claims.

Parks

A House Natural Resources panel on July 21 approved for full committee action **H.R.4533**, which provides for the entrepreneurial management of the Park Service.

On July 27, a House Public Works panel held a hearing on legislation and regulations affecting scenic overflights above national parks.

A Senate Energy panel concluded hearings July 28 on **S. 2121**, a bill to promote the entrepreneurial management of the park service.

H.R. 5044 (Vento, D-CA) would establish the American Heritage Areas Partnership Program.

Public Lands

H.R. 4946 (Satngmeister, D/L) and **S. 2398 (Simon, D/IL)** establishes the Midewin National Tallgrass Prairie in Illinois.

H.R. 5000 (Glickman, D/KS) establishes the Tallgrass Prairie National Preserve in Kansas.

Takings

S. 2410 (Gramm, R/TX) requires the federal government to provide compensation for regulations that reduce property values by $10,000 or 25%.

Water and Wetlands

On September 13, the House passed **H.R. 4308**, which amends the North American Wetlands Conservation Act to authorize appropriations for allocations under the act for wetlands conservation projects.

S. 2418 (Baucus, D/MT) improves the management of floodplains, and protects and restores floodplain environments.

Source: Land Letter STATUS REPORT September 15, 1994, Vol. 13, No. 24

Mississippi Interstate Cooperative Resource Association
608 East Cherry
Columbia, MO 65201

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River Crossings

River Crossings

Volume 3 November/December 1994 Number 6

Reader Survey

This ends our third year of publishing *River Crossings*. We hope it has provided a service not only to our members, but to the "River Community" as well. We can hardly believe that three years have passed!

A similar reader survey was conducted two years ago, and we received many useful comments and words of encouragement. We appreciated the response and tried to use all of our reader's comments to improve the publication.

Also, since *River Crossings* is being provided at no cost to our readers, we need to constantly trim our mailing list in order to reduce costs and eliminate those who aren't finding it useful enough to respond.

So please fill out and return the "Reader Survey" sheet provided at the end of this issue of *River Crossings*; it will ensure that your name remains on our mailing list.

In the meantime, we wish everyone a very happy holiday season; and thank you for your continued interest in and support of important river issues!

MICRA Paddlefish Survey

The MICRA Paddlefish/Sturgeon Subcommittee is planning a January coordination meeting to "kick off" their multi-state paddlefish tagging project. SubCommittee Chairman Kim Graham (MO) has been working with Subcommittee members to review tagging options and to determine which State and Entity members will participate.

Pending release of funds from the U.S. Fish and Wildlife Service and development of interagency cooperative agreements, tagging is expected to begin in the Spring.

Missouri River Chub Survey

A cooperative project between the U.S. Fish and Wildlife Service, MICRA, and the Missouri Department of Conservation began on the Missouri reach of the Missouri River this fall. The survey will document current abundance and distribution of sicklefin,

INSIDE THIS ISSUE

sturgeon, and flathead chubs, and compare the results to past surveys completed by Dr. William Pflieger (Missouri Department of Conservation). The same sample locations and techniques used by Pflieger are being used for this survey.

A limited number of chubs have been collected, but early results indicate that chub numbers decline significantly as seining moves in an upstream direction into the severely channelized and degraded river reaches upstream from Kansas City, MO.

Additional sampling will be conducted in the Spring and Summer, with a final report due early next Winter.

Battle for the Missouri River

"We are in a war--a water war--over control of the Missouri River. We cannot afford to lose this war; but just as in World War II when we lost the battle of Pearl Harbor, we must defend what is rightfully ours". These are the words of David Shorr, Director of the Missouri Department of Natural Resources (MODNR), in an editorial written for *Rural Missouri*, a publication of the Association of Missouri Electric Cooperatives.

Shorr goes on to say that the U.S. Army Corps of Engineers has announced plans for the Missouri River that are "...departing from four decades of responsible, productive management". "Unbelievable as it may seem", Shorr says, "the Corps now proposes to deliver an annual, three-month-long flood, sink the barge industry, and drastically cut releases from the reservoir system in the late summer and fall when water is needed the most." "As if that were not enough", Shorr says, "the new guidelines for river management would hold back more water in the large reservoirs in Montana, the Dakotas and Nebraska than they do now."

"In short", Shorr says, "the Corps' plan is a brazen attempt to take water that belongs to Missouri by geography and by majority (Missouri has a larger population than all of the upper basin states combined) and allow upstream states to use as much of it as they wish. The threat to out-of-basin transfers has never been so great."

Shorr goes on to say, the Corps' plan fails, "....to consider that an annual spring flood would keep bottomland farmers from their fields, and the drastic cuts in support for navigation would almost certainly mean that towboats and barges would leave the Missouri River entirely, resulting in higher shipping costs that would be borne mostly by the farmer...Even worse, the sharply curtailed river flows in the fall months would put Mississippi River navigation at risk from shutdown because of low water on the river from St. Louis to Cape Girardeau, thereby putting at risk Missouri's access to the international grain markets through the Port of New Orleans."

Shorr calls the Corps' Preferred Alternative "a monumental mistake". He believes that "...economic activity and agriculture have higher priorities than recreation, and that the Missouri River has a great future – in Missouri". He concludes that, "We must ensure that the Preferred Alternative is replaced with a reasonable and workable plan that will make the Missouri River better for all who use it."

Shorr is right in his conclusion, the Missouri River must be managed to make it better for "all who use it". That includes both upstream and downstream users, as well as the River's fish and wildlife resources. Unfortunately, Shorr seems to care only about his own State's economic interests.

He has thus clearly drawn sharp "battle lines" in this debate, and his rhetoric will likely only fan the fires between upstream and downstream interests.

River Crossings

Published by

Mississippi Interstate Cooperative Resource Association (MICRA)
608 East Cherry
Columbia, MO 65201

River Crossings is a mechanism for communication, information transfer, and coordination between agencies, groups and persons responsible for and/or interested in preserving and protecting the aquatic resources of the Mississippi River Drainage Basin through improved communication and management. Information provided by the newsletter, or opinions expressed in it by contributing authors are provided in the spirit of "open communication", and do not necessarily reflect the position of MICRA or any of its member States or Entities. Any comments related to "River Crossings" should be directed to the MICRA Chairman.

On October 25th Mr. Shorr submitted, for the MODNR, a Freedom of Information Act (FOYA) Request to the U.S. Fish & Wildlife Service requesting all available information on the pallid sturgeon and its listing as an

endangered species. Shorr said this information is needed to respond to the Corps of Engineers' Draft Environmental Impact Statement for the Missouri River Master Water Control Manual. Shorr may see the pallid sturgeon as his "spotted owl".

Source: Rural Missouri, Vol. 47, No. 11, November 1994

Citizen's Missouri River Environmental Coalition

Citizens from across the Missouri River Basin representing environmental interests, hunting and fishing groups, county conservation boards, Indian tribes and farming groups met near Council Bluffs, Iowa on November 19-20 to (1) share views about the River; (2) share ideas for improving it; (3) discuss the status of the Missouri River Master Manual Review process; and (4) discuss positions of the various states, agencies and organizations.

The group hopes to form a coalition of environmentally concerned citizen's groups which can play a more effective role in shaping the Missouri River's future. Of special interest to the group is determination of the true economics of the Missouri River navigation project and development of alternative channel maintenance methods which address the needs of multiple purpose uses, including the needs of native fish and wildlife species.

Many feel that the only voices currently being heard by downstream Congressmen is that of floodplain farming and navigation interests. The group hopes to help change that.

Reasonable and Prudent Alternatives for Missouri River Ecosystem Restoration

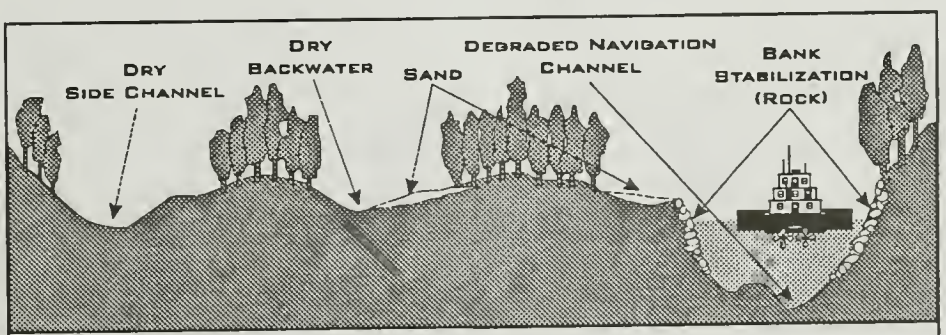
The Missouri River ecosystem is thought by many to be on the verge of collapse unless significant measures are taken to change the way it is managed. The least tern, piping plover, and pallid sturgeon are currently listed by the U.S. Fish and Wildlife Service on the federal "*List of Endangered and Threatened Wildlife and Plants*". The sicklefin and sturgeon chub are currently under review for listing, and several other species await petitioning.

The following summarizes recommendations made by the Fish and Wildlife Service (Service) for restoration of the Missouri River ecosystem, as part of their Draft Biological Opinion on the Corps of Engineers' Master Manual Review:

In order to avoid jeopardy for the tern, plover, and pallid sturgeon, the Service believes it is essential to reestablish some semblance of the River's natural hydrology and channel morphology. Biologists are uncertain, however, as to how far a modified hydrograph can depart from natural conditions and still achieve recovery. Studies which were completed in support of the Corps' Master Manual fail to adequately address ecosystem functions, or parameters related to sediment transport, nutrient supply, turbidity, temperature, fish migration barriers, and other ecological processes important to the long-term viability of the aforementioned species.

Changes in Missouri River ecosystem form and function necessary to preclude jeopardy for the three listed species include:

- **Restoration of the Spring Flood Pulse and Riverine/Floodplain Connection (Seasonal Flooding)**: Restoration of the spring flood pulse and riverine/floodplain connection in the channelized river (downstream of Gavins Point Dam) is essential. The Service believes that restoration of the spring flood pulse and river/floodplain connection function to 64,000 acres of adjacent, low-lying riverine/floodplain lands is reasonable and prudent. Flooding can be accomplished through fee-title acquisition or easements on accreted, floodway lands, and reconnection of these lands through structural measures (e.g. breaching of agricultural levees or opening of closing structures), flow management, or combinations thereof. The acreage target also can be met through flooding of within high-bank forested and emergent wetlands restored as a consequence of restoring shallow water habitat. The elevation of flooded lands and/or stages of flows should be such that the 64,000 acres are flooded from May 1-June 15, with a return frequency of at least 2.5 years (40% excedance stage). The Service expects that flooding 64,000 acres every 2.5 years will significantly increase the amount of palustrine wetlands in the lower river, promote nutrient cycling, partially restore turbidity and suspended sediment, flush organic matter (large woody debris and detritus) into the river, and provide seasonal off-channel habitat for spawning and for larval fishes and invertebrates. In the

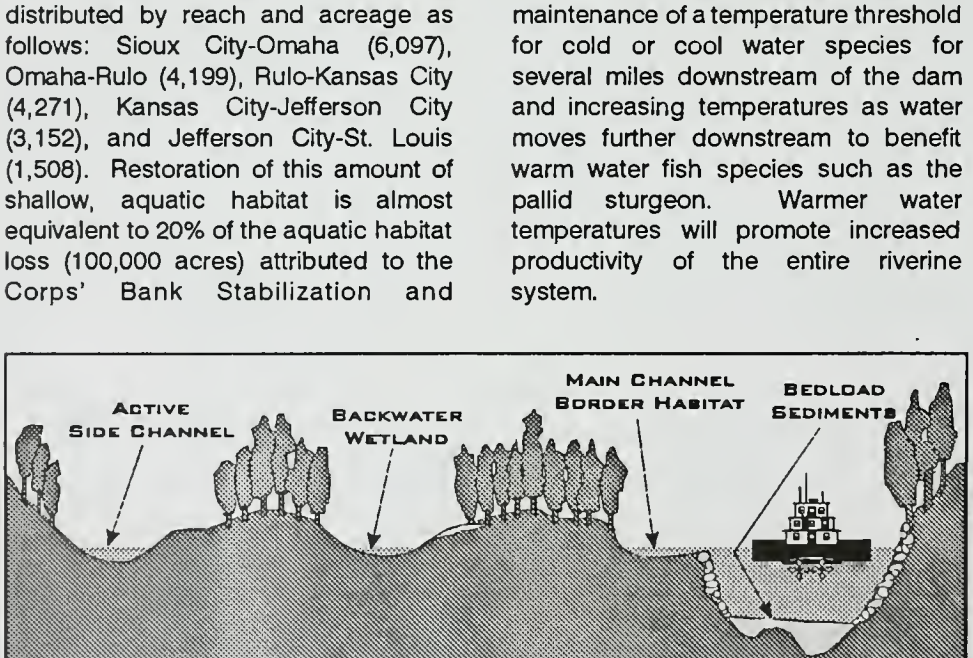


Main channel bank stabilization and bed degradation on the lower Missouri River dewater floodplain backwaters and side channels, destroying native fish and wildlife habitats.

unchannelized river and reservoir reaches, the Service believes that it is reasonable and prudent to implement a hydrograph in the Garrison reach similar to the one provided in the Fort Peck, Fort Randall, and Gavins Point reaches so as to inundate within-channel wetlands during the spring. Open river reaches below reservoirs should be monitored (for dissolved organic carbon and particulate organic carbon) to determine whether within-channel high flows are providing desired increases in organic matter and nutrients. Other options for restoring riverine organic matter (introduction of large woody debris and lawn wastes) should be considered in the Fort Peck, Garrison, Fort Randall, and Gavins Point reaches if inundation of wetlands below the high banks does not provide the desired response.

• **Restoration of Shallow Water Habitat in the Channelized River**: Offsetting the difference between historical shallow water channel habitat and today's conditions requires restoration of almost 57,500 acres in the channelized river. The Service believes that restoration of 19,227 acres of shallow water habitat in the channelized Missouri River is reasonable and prudent, and should be distributed by reach and acreage as follows: Sioux City-Omaha (6,097), Omaha-Rulo (4,199), Rulo-Kansas City (4,271), Kansas City-Jefferson City (3,152), and Jefferson City-St. Louis (1,508). Restoration of this amount of shallow, aquatic habitat is almost equivalent to 20% of the aquatic habitat loss (100,000 acres) attributed to the Corps' Bank Stabilization and Navigation Project. Shallow water habitat may be restored by increasing main channel top width, restoring chutes and side channels, manipulating summer flows, or a combination of these methods.

• **Temperature Regime**: Measures are needed to more closely mimic natural precontrol instream temperature regimes downstream of Fort Peck, Garrison, and Fort Randall Dams. These initiatives should first be addressed within those reaches identified as priority recovery areas for the pallid sturgeon (i.e. Fort Peck, Fort Randall, and Gavins Point). Alternative measures to incorporate selective reservoir water withdrawal might include higher elevation or multi-level outlets, reservoir surface-water discharges, or upper level conduits to feed dam turbines. Another option might be construction of a submerged in-lake mixing weir just upstream of existing fixed outlets to mix cold hypolimnion waters with warmer surface waters. Use of warm water effluents from power plants and relaxed restrictions on effluent water temperature may also provide opportunities for recovery. Scientific study is needed to determine the most feasible design within each target reach. At Fort Peck Dam, consideration should be given to maintenance of a temperature threshold for cold or cool water species for several miles downstream of the dam and increasing temperatures as water moves further downstream to benefit warm water fish species such as the pallid sturgeon. Warmer water temperatures will promote increased productivity of the entire riverine system.



Increased bedload and reduced bank stabilization would allow for main channel widening, restoration of floodplain wetlands and side channels, and rehabilitation of native fish and wildlife populations.

• **Sediment Transport and Turbidity**: Dynamic equilibrium of sediment transport and associated turbidity should be restored in reaches downstream of Ft. Peck, Garrison, Ft. Randall, and Gavins Point dams. Bed degradation must also be stopped or reversed. Sediment input will be necessary to restore instream habitats and water turbidity. Options to achieve sediment transport might include sediment bypass pipelines or physical deposition of sediments at the face of dams. Bed degradation below dams and head cutting at the mouths of tributaries might be addressed with grade control structures, but these structures would need weir notches to allow for fish passage into the tributaries. Turbidity should also be restored to functional levels downstream of Ft. Peck, Ft. Randall, and Gavins Point dams. Turbidity will increase with actions taken to restore sediment transport; however, additional measures may be needed if reintroduced sediments are clean of small particulate matter.

• **Long-term Ecological/Biological Research and Monitoring**: Concurrent with implementation of other actions, a cooperative, interagency research and monitoring program should be conducted to measure the effects of operations and elements of the reasonable and prudent alternative on the three listed species, in particular, and on riverine and reservoir fish and wildlife resources, in general. The Service believes that an initial program funding level, commensurate with 1% of the $1.2 billion annual economic benefits of the System (i.e. approximately $12 million) is reasonable and prudent. The ecological/biological processes of the Missouri River are very complex and dynamic and, for most reaches, are continuously affected by the Corps' operation and management actions. Therefore, the recommended research and monitoring program should be a continuous and long-term interagency commitment.

The Service's Draft Biological Opinion also makes specific management recommendations for the various endangered species, as well as for their

"incidental take", and the need for future reporting and consultation.

Alabama Sturgeon Listing Challenged

Business and economic interests have submitted a new analysis to the U.S. Fish & Wildlife Service (Service) arguing that the Alabama sturgeon is not distinct from the shovelnose sturgeon, and thus should not be listed as endangered. The Alabama sturgeon issue has drawn national attention because opponents of the current Endangered Species Act are citing it as a key example of why the law must be reformed by Congress to better balance both economic and environmental interests.

The Alabama-Tombigbee Rivers Coalition, a group of approximately 34 businesses and organizations that would be economically impacted by a listing of the sturgeon, has argued that channel dredging and other critical economic activities would be significantly curtailed if efforts are initiated to protect the sturgeon's habitat. The group has also disputed the fundamental scientific issue of whether the Alabama sturgeon can properly be considered a distinct species.

The coalition has submitted a critique of a key report on the sturgeon that the Service is relying on as a definitive scientific assessment of the sturgeon's status. The new analysis entitled, "A Critique of the Written Comments Submitted by R.J. Mayden and B.R. Kuhajda to the U.S. Fish and Wildlife Service: Reevaluation of the Taxonomic, Systematic, and Conservation Status of the Alabama Sturgeon, *Scaphirhynchus suttkusi*, Williams and Clemmer (*Actinoterygii, Acipenseridae*)" cites numerous scientific errors and challenges the subject report's conclusions.

"The issue of whether the Alabama sturgeon is, in fact, a distinct and separate species from the Mississippi shovelnose sturgeon is the crucial issue in the proposed listing process," according to a statement by the coalition. In the meantime, the Service is seeking data on whether the sturgeon still exists in the Mobile River System.

The coalition's critique notes that the Service's decision to list the sturgeon is based on a taxonomic description by two scientists, Jim Williams and Glenn Clemmer, whose work was examined by Kuhajda and Mayden. The coalition's analysis examines both efforts, agreeing with Kuhajda and Mayden's findings of significant errors in the earlier taxonomic description, but also challenging Mayden and Kuhajda's assertions that they have discovered a "new" taxonomic characteristic to distinguish the Alabama from the shovelnose sturgeon. The new characteristic – spines on the head and snout of the shovelnose – is seriously flawed, the analysis says, because its presence varies within populations of fish, and some shovelnose have been found without them.

"We need a big taxonomic study of the shovelnose...If it's not a separate species, then the proposed listing should be dropped," a coalition source adds. Another coalition source stresses the broader importance of the sturgeon issue for legislative debates over revising the Endangered Species Act, noting that this case – along with the California gnatcatcher dispute – points to the strong need for reforming the law to "force a balance between economic and environmental interests."

The issue has been raised with White House officials, and has attracted the attention of the entire Alabama congressional delegation as well as Mississippi senators, this source says.

The Service must issue a final decision on the sturgeon by December 15, after its six-month extension of the deadline expires. The coalition, on August 12, filed a 60-day notice of intent to sue with Interior Secretary Bruce Babbitt, arguing that the Service failed to publish either an extension notice or a final regulation by June 15 and therefore "the proposed regulation must be immediately withdrawn."

Source: WATER POLICY REPORT, Vol. III, No. 20 - September 28, 1994

IWLA Speaks Out on Corps' Navigation Study

According to a News Release by the Izaak Walton League of America (IWLA), "The U.S. Army Corps of Engineers is intentionally using a faulty cost-benefit methodology in an attempt to justify billions of dollars of new, environmentally destructive 'pork barrel' waterways projects on the Upper Mississippi and Illinois Rivers.

"These public meetings and the $44 million navigation study are a sham," said Paul Hansen, director of the IWLA Midwest Office. "The Corps does not

care what people think about their proposals; they simply want to fulfill their legal obligations under the National Environmental Policy Act to consult the public."

"The Corps' economics are also a sham," said Hansen citing a paper by two respected University professors (Baumel and Woo, "Economic Evaluation of Alternatives to Rebuilding Ten Locks and Dams on the Upper Mississippi River," 1993), and a major study by the University of Iowa Public Policy Center (Forkenbrock, et al., Transportation and Iowa's Economic Future, 1993). Corps' analyses have historically been oriented toward justifying additional inland waterway investments...the current Corps methodology is incapable of adequately evaluating alternatives to barge movements. Quite clearly, it is not necessary to expand the capacity of Upper Mississippi River locks and dams

at the present time...major improvements are very unlikely to be efficient investments in public capital.

"Two years ago, at another Corps Public Meeting, all of the conservation groups asked the Corps to have the National Academy of Sciences (NAS) provide an independent review of these navigation studies," Hansen added. "Our request was at first ignored, and then rejected – even though the NAS cost for a three year review ($385,000) represented only about 1% of the total cost of the Corps study."

"According to many biologists, the Mississippi River is on the verge of a major ecological collapse," Hansen concluded. "Taxpayers and the environment deserve a fair comparison of alternative modes of commodity transportation before being asked to pay for billions of dollars in subsidies for what would probably be the most expensive public works project in U.S. history. This issue is not about getting our goods to the international market, it is about subsidizing one mode of commodity transport for some of the richest corporations in America."

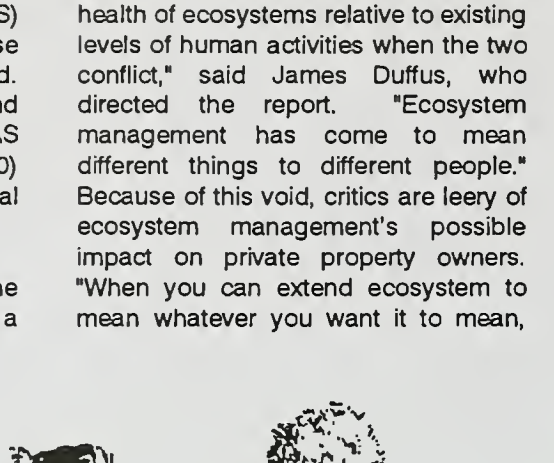
Contact: Paul Hansen, Director, Midwest Office, Izaak Walton League of America, 5701 Normandale Road, Suite 210 Minneapolis, MN 55424

GAO Report on Ecosystem Management

A Government Accounting Office (GAO) report entitled, "Ecosystem Management - Additional Actions Needed to Adequately Test a Promising Approach," was issued September 20. Although the report generally endorses ecosystem management as a concept, it warns that unless the administration creates clear policy goals and induces interagency coordination, the approach will not be effective.

The report comes in response to the efforts of Interior Secretary Bruce Babbitt, who has made ecosystem management a top priority, hoping the ecosystem perspective will bring foresight and flexibility to public land management and minimize future endangered species conflicts.

"The administration has not clearly identified the priority to be given to the health of ecosystems relative to existing levels of human activities when the two conflict," said James Duffus, who directed the report. "Ecosystem management has come to mean different things to different people." Because of this void, critics are leery of ecosystem management's possible impact on private property owners. "When you can extend ecosystem to mean whatever you want it to mean,



that doesn't spell ecosystem, that spells trouble," said Rep. Charlie Taylor (R/NC).

The report also lists insufficient data, disparities in federal agency missions, and constraints on collaborative efforts by federal and nonfederal parties as possible barriers to successful ecosystem management. In response to the first two problems, proponents of the ecosystem approach point to a number of government efforts already underway – the four primary federal land management agencies – Bureau of Land Management, U.S. Forest Service, National Park Service, and Fish & Wildlife Service – have independently begun implementing ecosystem management strategies. With the absence of national priorities, the different evolving strategies could hamper initial coordination of a national strategy. Moreover, the federal government will have to engage in an intensive consensus-building effort with state, local and tribal governments, as well as public and private interests. This collaboration will be constrained by current laws, institutions, interests, and limitations already "embedded in the larger national land and natural resource use framework."

The effort will also require collection of massive volumes of data about ecosystems' structures, components, functions, and processes "at several geographic scales" to determine current conditions and trends. Current data held by the different agencies are generally incomparable and contain significant gaps. Widescale socioeconomic data will also be needed, notes the report, pointing out that data of this sort will be difficult to aggregate by ecosystem. For example, socioeconomic data collected for the Pacific Northwest Forest Plan led to job loss estimates ranging from 12,000 to 147,000. Other implementation steps recommended by GAO include delineating ecosystem boundaries by reasonable ecological and management criteria; establishing management choices about desired future ecological conditions of the systems, including consideration of what types of natural resource activities can be sustained; and understanding ecosystems to determine maintenance and restoration needs as well as the effects of human activities.

Administration and agency officials believe pilot studies in the Pacific Northwest, Everglades, Anacostia River, and Prince William Sound, supported with $700 million in the administration's 1995 budget, will provide federal agencies with the information needed to iron-out wrinkles that could hamper effective implementation. Also, in accordance with Al Gore's recommendation for greater interagency

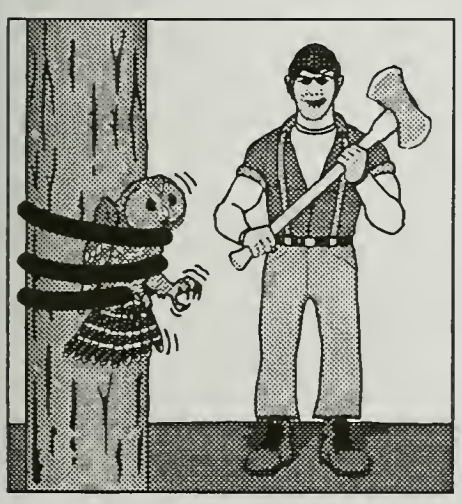
cooperation, included in his "Reinventing Government" review, the administration established the Interagency Ecosystem Management Task Force in the White House Office of Environmental Policy.

As for the role of private property, ecosystem management is "a recognition that the federal government can't achieve its objectives by buying private lands," according to George Frampton, the Interior Department's Assistant Secretary for Fish, Wildlife and Parks. "It must cooperate with private property owners," a monumental task considering their currently acrimonious relationship, fraught with property-use restrictions and accusations of government takings. "Regardless of complexities, when looking 100 years down the road ... we need to have the ecosystem approach in place," said Rep. Wayne Gilchrest (R/MD) of the Merchant Marine and Fisheries Committee.

Sources: Land Letter, Vol. 13, No. 28, October 20, 1994 and Water Policy Report, Vol. III, No. 20, September 28, 1994

Oregon Economy Thriving Despite Owls

When federal protection for the northern spotted owl kicked in under the Endangered Species Act, timber industry representatives and elected officials warned of pending economic collapse. Now, the latest economic reports have the Oregon economy



posting a low unemployment rate, just over 5%, three years after the largest reductions in logging on the state's federal forests.

While Oregon did lose 15,000 forest products jobs in the past five years, it gained almost 20,000 jobs in technology industries, according to the October 11 New York Times. In fact, next year high technology will replace timber as the top source of jobs in Oregon. Timber industry representatives, however, still warn of a delayed economic decline due to the restrictions.

Source: Land Letter, Vol. 13, No. 28, October 20, 1994

Jobs/Environmental Health Highly Correlated

The Durham-based Institute for Southern Studies released a report October 12 that, after separately determining each state's environmental and economic ranking, concludes "states with the best environmental records also offer the best job opportunities and climate for long-term economic development."

State economic rankings were based on 20 economic indicators, which included annual pay, job opportunities, business start-ups, and workplace injury rates. Toxic emissions, pesticide use, energy consumption, and spending for natural resource protection were just a few of the 20 measures contributing to a state's environmental ranking.

Hawaii, Vermont, New Hampshire, Minnesota, Wisconsin, Colorado, Oregon, Massachusetts, and Maryland rank among the top 12 states in each category while Louisiana, West Virginia, Alabama, Mississippi, Texas, Tennessee, South Carolina, Kentucky, Oklahoma, Indiana, Arkansas, and Ohio rank among the worst 14 on both lists.

Source: Land Letter, Vol 13, No. 29, November 1, 1994

Endangered Species Act and Public Lands

The Endangered Species Act's (ESA) effectiveness on public lands, as well as a new federal interagency memorandum of understanding on the subject, was the focus of a Senate Environment subcommittee hearing held September 29. Representatives of public land management agencies testifying at the Hearing described the ESA as necessary, but insufficient for responsible management of the nation's biological resources.

"We simply don't have the resources to restore declining fish and wildlife populations on a species-by-species basis," said Denise Meridith, deputy director of the Bureau of Land Management. "Managing ecological systems in their entirety, rather than focusing on their parts, is the essence of good stewardship." Her sentiments were echoed by Robert Davison of the Interior Department, who added, "All federal agencies must act as a team if we are to conserve the nation's remaining biodiversity."

Each agency representative emphasized the importance of the memorandum of understanding, signed by 14 federal agencies September 28, which establishes regional interagency working groups in an attempt to coordinate agency actions to avoid conflicts over endangered species and create opportunities for conserving and recovering species that are listed as threatened or endangered. The agencies will help the Fish and Wildlife Service and The National Marine Fisheries Service form endangered species recovery teams to implement their recovery plans and conservation agreements. The working groups also will involve the public, states, Native

American tribal government's, and local governments to protect declining species that are candidates for possible listing.

"This agreement is a major step forward in our efforts to make the Endangered Species Act work better," said Interior Secretary Bruce Babbitt at the hearing. "Agencies will now sit down at the same table to coordinate their planning efforts, preempting potential endangered species problems."

Battle lines are forming in the Senate, however, with members beginning to square off on the need for a drastic overhaul of the ESA. "It is not my goal to abandon our national commitment to the protection of endangered species," said Sen. Bob Packwood (R/OR), testifying before the subcommittee, "However, I believe the act can, and should, do a better job of balancing jobs and economic opportunity with species protection." Packwood's testimony drew the ire of Sen. John Chafee (R/RI), who considers the ESA balanced in its current form. Chafee referred to a 1982 amendment which gives the Interior Secretary authority to consider economic factors when designating critical habitat on public lands. Chafee and Senate Environment Committee Chairman Max Baucus (D/MT) plan to reintroduce their environmentalist-supported ESA reauthorization legislation in the next Congress.

Source: Land Letter, Vol. 13, No. 28, October 20, 1994

Endangered Species Act and Private Lands Case

A Federal Judge is about to rule in a case that could have profound affects on the reach of the Endangered Species Act (ESA) on private lands. The Environmental Protection Information Service expects a decision within a few weeks in their lawsuit against the Pacific Lumber Company on behalf of the endangered marbled murrelet. The group's case, filed to prevent logging on 137 acres of the murrelet's virgin redwood habitat, is the first to test Sweet Home... v. Babbitt, in which a federal court of appeals found invalid an Interior Department regulation defining "harm" to a species to include habitat modification.

"This is a very significant case," said John Gaffin, the endangered species coordinator for the information service. "If the judge rules against Pacific Lumber, he will be denying Sweet Home and invoking Palila," a reference to Palila v. Hawaii Department of Land and Natural Resources, a ruling that concluded Congress intended habitat modification to constitute a "take" under Section 9 of the ESA. Pacific Lumber Company originally argued that their logging plans would not involve significant marbled murrelet habitat, but that line of defense faded when company officials conceded in court that their surveyors were told not to record any murrelet calls or other evidence of the birds' presence. Thus, the Sweet Home precedent became the center of the company's defense.

Source: Land Letter, Vol. 13, No. 29, November 1, 1994

The Changing Farm Scene

According to a byline article by Jon Margolis of the Chicago Tribune, Neil Harl, an agricultural economist at Iowa State University says, "We're poised on the edge of the greatest period of farm consolidation anyone has ever seen,". "We're going through a transformation of many dimensions. Government's hand is receding, trade barriers are being reduced, and there will be more attention paid to air and water pollution and to food safety."

Perhaps even more important, Harl said, is this little-noted demographic fact: Most farmers are approaching retirement age, and most don't have able-bodied sons who want to farm. In short, there will be fewer farmers, fewer of the businesses that serve farmers, and fewer farm hamlets dotting the countryside. "What we're going to have is a shrinkage of the Corn Belt to the most productive areas," said Harl. "So some of the marginal land, in southern Iowa for instance, will go back to grazing. That means the grazing land in the West loses value. There will be a rolling wave of adjustment."

A decade ago, Margolis says, perhaps even five years ago, all this speculation would have been fighting words to the farm community, especially to its central establishment as embodied by the American Farm Bureau Federation. In effect, the farm community is admitting that if farm subsidies were designed to preserve the midsized operator–that "family farmer" who has been central to the American myth since Thomas Jefferson's time–it has failed, Margolis said.

Perhaps the first hint that the farm community's period of denial had come to an end was in the reaction, or lack of reaction, Margolis said, to the June 30 report of the Interagency Floodplain Management Review Committee, the government's official report on the 1993 floods. Though written with diplomatic tact, Margolis said, it called "inconclusive" the speculation that wetland restoration might have softened the impact of the flood–the report was the first official government document to conclude that there had been too much conversion of wetlands into croplands, that in general flood plains should be for rivers instead of for towns and farms and that the government should not "carry the burden of massive flood disaster relief costs." Neither agricultural organizations nor politicians from the Farm Belt complained.

"There used to be a lot of pasture grass along the creek," said Darrel Groth, a 55-year-old Iowa farmer. Groth's family raised cattle, so they would leave unplowed the land right alongside Wolf Creek, which flows into the Cedar River, which flows into the Iowa, which flows into the Mississippi. "But we quit feeding cattle," he said. "There was no money in it." Now, the Groths grow crops on that land, almost to the creek bank, so instead of soggy ground that can absorb flooding, the land is plowed firm, more of a splashblock than a blotter. "Groth and his fellow-farmers did not cause the 1993 flood, nature did. But converting all that pastureland and woods to all that cropland, because the government was subsidizing the crops, may have

worsened the flood", Margolis said.

Perhaps the last bastion of denial, in vogue just a few years ago, was that all farmers needed was more foreign markets. Toward that end, subsidies were actually increased, not to the individual farmer but to the giant export concerns, Margolis said. Foreign markets are important, and the relaxation of trade barriers is one of the forces transforming agriculture. But, Margolis said, the United States is no longer the dominant force in agricultural production.

The new realism of the farm community can be seen in Iowa, where leading farm groups are proposing that the current subsidy system be abolished completely, and replaced with "revenue assurance," which would protect farm income only in case of natural disaster or an unexpectedly steep drop in commodity prices. Their proposal is not likely to be adopted, Margolis says. "If we back out cold turkey it can cause tremendous problems," said John Harman, the General Accounting Office's director of food and agricultural issues. But the very fact that the idea comes from farmers who are associated with mainstream organizations indicates farmers do not deny change is coming, Margolis says.

Furthermore, some observers believe that after a period of adjustment the Midwest and its farmers can prosper under a less subsidized system. If the subsidies drop, so will the value of land and barns, which would be bad news for some current farmers, but good news for young people who want to start farming and don't want to start with huge debt. "There would probably be some disruptions," Harman said. "But wheat and corn would do very well under a more open market situation. In fact, on net, the Midwest would probably do better."

To save soil from erosion, thousands of farmers have stopped plowing their fields in favor of "no-till" farming, Margolis says. Organic farming, once derided as a counterculture pipe dream, has established a foothold in mainstream agriculture. The impending changes in policy in the middle of the country bear some resemblance to the changes that have embroiled the West in controversies over owls, river pollution, grazing and open space. Those are largely environmental disputes, but they also reflect the growing belief that the country was subsidizing the production of more logs, beef and minerals than were needed, Margolis says.

In the Midwest, the money spent to subsidize more corn, wheat, soybeans and dairy products than are needed makes the timber and grazing subsidies pale by comparison, Margolis says. Here, the money is the major problem. The environmental concerns are secondary, if important.

But as one Congressman noted, "There are 25 million dues-paying members of environmental groups. It's naive for the farming community to believe that we can build a wall and keep out the environmentalists."

Source: Columbia Daily Tribune, October 31, 1994

Farm Runoff as Point Source Pollution

A recent federal appeals court decision which held that wet weather runoff from a dairy farm is a point source of pollution under the Clean Water Act (CWA) is raising serious concerns among agricultural groups, who call the decision a significant expansion of the point source definition. These sources say the decision, if upheld, could make farmers for the first time subject to CWA citizen suits, and Congressional sources say the decision points to the need for new polluted runoff legislation to clarify how farm runoff should be addressed.

The U.S. Court of Appeals for the Second Circuit, in a September 2 decision, overturned a lower court decision in the case, Concerned Area Residents for the Environment (CARE) v. Southview Farms. CARE had sued the farm, charging that runoff into a local stream from manure spreading operations at the farm constituted a point source under the CWA. The Justice Department's Environmental Resources Division and EPA's Enforcement Office filed an amicus curiae brief in support of CARE, but neither office could be reached for comment.

Southview is a dairy farm that owns more than 2,000 animals and 1,100 crop acres. The manure storage facility at the farm is defined as a concentrated animal feeding operation, a point source under the CWA. The farm spreads the manure on its crop acreage as fertilizer, a process exempt from CWA regulation. Beginning in 1989, members of CARE testified that liquid manure flowed through a swale coupled with a pipe into the stream. CARE sued the farm, claiming that the flow represented a point source, and a jury ruled in favor of CARE in 1993.

Source: WATER POLICY REPORT, Vol. III, No. 20 - September 28, 1994

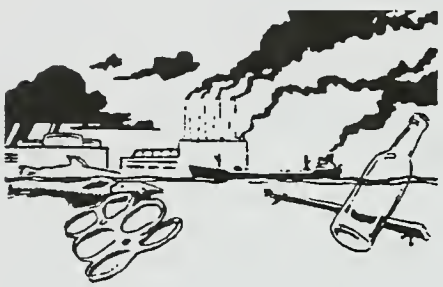
Major EPA Study Links Ongoing Discharges/Sediment Problems

EPA in a first-look report on sources of contaminated sediments has found that industrial discharges may be an "ongoing" contributor to sediment

contamination, contrary to the industry view that these facilities contributed to past pollution, but are no longer a significant source. The new information is already being used to identify chemicals and industries that may need further regulation.

The point source inventory study, expected to be released soon as part of the agency's landmark National Contaminated Sediments Strategy, will likely focus increased EPA attention on industrial dischargers as the agency implements the strategy, and is already being used for effluent guidelines targeting, assessment, and enforcement purposes.

The agency considers contaminated sediments to be a significant threat to



aquatic ecosystems and human health, pointing to more than 1,200 fish consumption advisories as evidence of the scope of the problem. Last year dredging of contaminated sediments erupted into an intense political controversy over the dredging of dioxin-contaminated sediments in the New York-New Jersey harbor. While the report, "National Sediment Contaminant Source Inventory: Analysis of Release Data for 1992", will "put some heat on industry," an EPA official involved in its development says there are "limitations to its use." The EPA official explains that the report is "only as good as its data," pointing out that the data are based on Toxic Release Inventory (TRI) and Permit Compliance System (PCS) information. When looking at the conclusions and uses of the report, its "limitations must be kept in mind," says this source, who notes that the document's peer reviewers recommended that this caveat be included in the report.

Despite any limitations of the report, EPA officials say it provides plenty of evidence that industrial discharges are "still contributing to the contaminated sediments problem." However, "the question does remain as to how much industry is contributing [to the problem] as EPA does not have a handle on the nonpoint source contribution."

Source: Inside EPA's Water Policy Report, Vol. III, No. 20, September 28, 1994

Environmental Sentencing Guidelines

The U.S. Sentencing Commission has worked periodically over the past two years to develop guidelines for judges and prosecutors for use in determining penalties–primarily in civil cases–for violations of environmental statutes. By statute, such recommendations must be forwarded to Congress by May 1 if they are to be considered in a given year.

If Congress approves the recommendations, they take effect November 1, meaning that the Commission must act by May and the earliest any new environmental guidelines could take effect would be November 1996.

However, four vacancies presently exist on the Commission, and an Administration delay in nominating new members will likely prevent the Commission from proposing new environmental crime sentencing guidelines in 1995 as planned. Once developed, the guidelines could mean tough penalties for clean water and drinking water violators.

The potential for delay comes as a relief to industry officials, who expressed grave concerns with an environmental crime proposal that was floated by the Commission last November. Industry was particularly concerned that the November proposal failed to adequately address "intent" when determining corporate criminal culpability. One industry source believes, however, that the November proposal did not enjoy widespread support on the Commission, and was particularly opposed by one of the commissioners who remains on the panel, and therefore it is likely that the Commission will "start from scratch" when they reconsider the issue.

Starting from scratch will undoubtedly set the process further back, say several industry sources, who believe that the new commissioners will need several months to come up to speed on an issue that has proven to be very controversial both within the commission and in the regulated community.

Source: WATER POLICY REPORT, Vol. III, No. 20 - September 28, 1994

Aquatic Plants/Zebra Mussels

An article in the August *Twine Line*, an Ohio Sea Grant publication, notes that the clarity of Lake Erie waters began to increase following passage and implementation of the Clean Water Act in 1972. This trend increased significantly following zebra mussel invasion.

The article reports that water clarity in the western basin increased by 85% following explosion of the zebra mussel population. Considering that each adult mussel is capable of filtering a

liter of water each day, it is no surprise that the suspended particulate matter in Lake Erie has been reduced.

Under the conditions of clearer water, rooted vegetation increased dramatically. Such species as eel grass, milfoil, pondweed, coontail and even water lily are spreading in the Lake's shallower waters. According to the report, this has produced habitat for expanding populations of largemouth bass and bluegills.

Unfortunately, the growth of weeds, combined with careless boating activities, is creating a new and serious means of distributing zebra mussels to new waters. Zebra mussels readily attach to submerged aquatic vegetation and thereby obtain a new means of transport.

For example, observations at Lake St. Clair demonstrated that boats being trailered frequently left mussel-covered aquatic plants clinging to the trailers. Visual inspections at boat ramps at Catawba State Park revealed that infested clumps of weeds were commonly left in the boat ramp area.

The *Twine Line* article cautions that since zebra mussels can live for several days out of water, boats used in several lakes within days could contribute to the spread of zebra mussels to new water bodies.

Source: ASA Bulletin, No. 454, August/September 1994

Property Rights Setback

Opposition to the burgeoning private property rights movement exhibited new signs of organization before the end of this year's Congressional session. A widely-circulated letter, signed by a majority of state attorneys general, asked lawmakers "to oppose the 'takings' bills currently pending in Congress." Also, more than 70 organizations representing organized labor, civil rights, consumers, public health, and conservation interests sent the same message in their own letters to Congress.

And, on October 5, in a major set-back for private property rights advocates, the House gutted takings amendments attached to H.R. 5044, a bill establishing the American Heritage Areas Partnership Program. The takings amendments, sponsored by Reps. Billy Tauzin (D/LA) and Rod Grams (R/MN), would have required both owner consent and compensation for any restrictions on land use resulting from the act. But Reps. Ralph Regula (R/OH) and Nick Rahall (D-WV) stripped the key provisions of the takings amendments with their own secondary amendments. "This is a new watermark," said a House Natural Resources committee staff member. "Members have really become educated on the takings issue." Although the heritage bill did not reach the floor in the Senate, supporters are optimistic about its prospects in the next Congress.

The attorneys general, in their letter, said takings bills "purport to implement constitutional property rights protections, but in fact they promote a radical new takings theory that would severely constrain the government's ability to protect the environment and public health and safety." But property rights advocates attacked the letter's core premise. "It's an ill-advised letter," said Nancy Marzulla of Defenders of Property Rights. "They're saying it's fine and acceptable to destroy someone's civil rights."

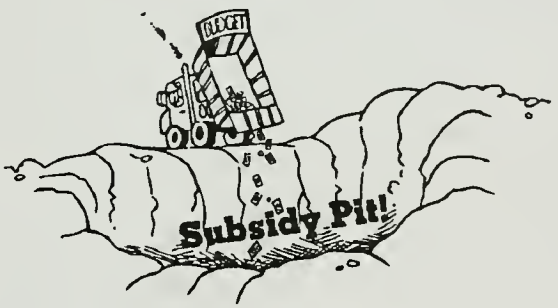
Environmentalists hope their letter to Congress made inroads for next session's anticipated battles over property rights. "The letter illustrates the diverse coalition of interests that have united to oppose takings bills and amendments," said John Echeverria, attorney for the National Audubon Society. "The public interest community is catching-up."

Source: Land Letter, Vol.13, No. 28, October 20, 1994

Federal Subsidy Program Report

A new Congressional report calls for review of federal subsidy programs involving minerals, irrigation water, hydropower, timber, grazing, and recreation. In outlining the abundance of unsound federal subsidies presently provided to private companies that develop natural resources on federal land, the report's author, House Natural Resources Committee Chairman George Miller (D/CA), argues that numerous price supports, tax breaks, and low cost loans, intended to develop the western United States, have outlived their original function and now create private profits that should be shared with American taxpayers.

"We're not advocating the elimination of all subsidies," said Miller. Rather, he proposed "examining them with a critical eye and eliminating the ones which no longer make sense." The report, entitled "Taking from the Taxpayer: Public Subsidies for Natural Resource Development," is especially critical of mining, irrigation, and timber



interests who utilize multiple and overlapping subsidies. For example, a typical farmer can obtain low-cost loans to improve irrigation systems and Bureau of Reclamation water contracts far below the cost of providing it, as well as pest control assistance and crop subsidies through the Department of Agriculture.

To eliminate such overlapping benefits, the report suggests a six-step process: (1) inventory all programs supporting

use of natural resources; (2) determine whether they serve current public policy purposes; (3) evaluate and eliminate inconsistent policies; (4) obtain a fair return on sales of federal natural resources; (5) prevent cash payments of subsidies; and (6) require recipients to report all federal programs in which they are involved.

Miller's report outlines other government practices that he claims "take from the taxpayers," including the 1872 Mining Law, which allows mining companies to purchase government land for as little as $2.50 an acre; below cost federal timber sales to private timber companies; exemptions from reporting routine toxic discharges for oil and gas companies; and funding hydropower through irrigation subsidies.

While mining reform advocates and environmentalists hailed the report, industry representatives downplayed its significance. "The report is just a rehash of stuff we've already heard about. There is nothing new in there," said a spokesperson for the American Mining Congress. Mining interests want reform that will not compromise benefits that have contributed jobs and revenues to the economy on a national, regional, and local level, according to the group.

The large number of natural resource subsidies allotted to single private interests also were criticized within Miller's report. The 1872 Mining Law, originally intended to encourage pioneers to settle the West, now faces a reality where patent applicants "are more likely to be large mining companies than the individuals envisaged in 1872,". The report also contends that poor management, combined with anachronistic federal laws, facilitate single-interest accumulation of benefits from multiple federal programs.

Overlapping federal subsidies were major issues of debate during the White House review of floodplain management policies in the aftermath of the 1993 flood. Many contend that the only way farming can exist on some floodplains is through massive, overlapping federal subsidies which should be eliminated or drastically reduced.

Source: Land Letter, Vol. 13, No. 25, September 20, 1994

"Wake" Declared on Mining Reform

For at least another year the multi-billion dollar mining industry will operate under the 1872 Mining Law that requires no royalty payments on minerals extracted from federal lands and includes provisions for the sale of government-owned land to mining companies for a few dollars an acre.

As the legislative session drew to a close, compromise talks between House and Senate conferees broke down September 29, sealing the fate of mining reform legislation in the 103rd Congress. Negotiations reached an impasse after the Clinton administration, industry, and environmentalists worked fervently with conferees for weeks, hoping to remedy points of contention. Despite a series of offers and counteroffers, committee staff said, ultimately mining industry lobbying was too potent a force to overcome.

Conferees were trying to reconcile widely disparate bills passed earlier this year by each chamber. The House-passed bill would have imposed an 8% royalty, given the federal government control of groundwater pollution standards, and granted the Interior Secretary authority to deny mining permits to companies failing to comply with current environmental regulations. The industry-backed Senate bill, in contrast, called for a 2% royalty and no federal standards or Interior Department veto power.

In August, Senate Energy Committee Chairman J. Bennett Johnston (D/LA) drafted a compromise bill containing a 3.5% royalty, deference to states for groundwater regulations, and reduced environmental requirements in the Interior permit process. The bill was opposed by both House and Senate conferees.

Although mining interests blamed House negotiators for the death of mining reform, House staffers tell a different story. In the final days, conferees and staff members were meeting daily, and the House even conceded to the 3.5% royalty–the bottom-line for Senate Republicans--as long as the Senate would agree to tighten royalty-relief loopholes that exempted many mining interests from royalty assessments. According to staffers, Senate conferees then withdrew their earlier baseline and demanded a 3% royalty. Meanwhile, the Alliance sent out an urgent alert to industry CEOs, who stepped up their lobbying efforts, staff members said.

Johnston and Interior Secretary Bruce Babbitt denounced the mining industry for its intransigence. "This administration extended its hand to the industry and its congressional supporters. They had their chance at reasonable reform, but chose to block it," said Babbitt, who accused special interests of ignoring wide-spread support for reform by the House, Senate, and the American people.

Babbitt pledged to reform the industry through administrative regulatory reforms, while seeking a new legislative effort next year. Declaring "a wake for mining reform," Johnston also promised to renew the reform push. "We will be looking for every conceivable legislative opportunity in the next Congress to reform this industry," he said.

Proponents of reform did achieve a one-year moratorium on the patenting of new claims through an Interior Department appropriations bill rider, but they want the administration to use its discretion to impose new restrictions on mining. Specifically, they want Babbitt to withdraw federal lands from further mining operations, a move not unlike the actions taken by presidents William Howard Taft and Theodore Roosevelt, who withdrew land from consideration by coal, oil, and gas companies while the government devised a royalty system. Babbitt said the Interior Department is considering both a tax on mining companies and stricter environmental regulations on their operations. A massive federal land

withdrawal is among the options, but Babbitt has yet to endorse the idea.

According to a U.S. Public Interest Research Group (PIRG) report, released on October 6 political action committees representing hard-rock mining and related industries contributed $17 million to Congressional candidates from January 1987 until March of this year. The report found that the industry extracted minerals worth $26 billion, representing a "1500 to one return on their investment." Details on specific contributions to legislators and their subsequent voting records on mining reform also are available in the report, entitled "Mining the Congress" and can be obtained through PIRG at 202-546-9707.

A nationwide public opinion poll, released September 14 by the Mineral Policy Center, indicates broad-based support for reform of the 1872 Mining Law. "This poll clearly demonstrates that all Americans, Democrats, Republicans, and Independents, in small towns and big cities, and in all regions of the country want the mining law's giveaways to be stopped," said Philip Hocker, the center's president.

The poll found that 57% of the 800 respondents favored stopping the controversial mine patenting program, 65% favored giving the Interior Secretary the power to deny permits for mines in environmentally sensitive areas, and 74% supported giving the federal government, rather than the states, the responsibility for setting reclamation and environmental standards.

In response to the poll, the mining industry's Mineral Resource Alliance, dismissed the poll saying they would rather "achieve real progress" than issue press releases. The alliance said it is concentrating on passing mining reform legislation sponsored by Sen. J. Bennett Johnston (D/LA), not relying on what they termed "contrived surveys that reach obvious conclusions."

Source: Land Letter, Vol. 13, No. 25, September 20, 1994, No. 26, October 21, 1994, and No. 28, October 20, 1994

Georgia River Care 2000 Plan

On September 8, two months after an investigation by the Atlanta Journal and CNN found "unchecked development" to be the major cause of pollution in the Chattahooche River Basin, Georgia Gov. Zell Miller (D) announced the "River Care 2000" conservation initiative. The new plan has received wide praise from conservationists for its use of state and private funds to obtain sensitive lands along state rivers to help insulate the areas from environmentally damaging waterfront development.

Source: Land Letter, Vol. 13, No. 25, September 20, 1994

Northwest Hydropower Decision

In a far-reaching decision that could have implications for federal clean water and endangered species laws, an appeals court has ruled that electric power planning authorities contributed to the decline of salmon runs in the Columbia River Basin.

The Ninth Circuit Court on Sept. 9 ruled that the Pacific Northwest Electric Power and Conservation Planning Council failed to comply with fish and wildlife provisions of the Northwest Power Act in adopting its 1993 Strategy for Salmon. In deciding the case (Northwest Resource Information Center v. Northwest Power Planning Council, No. 92-70191, Court of Appeals for the Ninth Circuit) a three judge panel found that the Council failed to explain its rejection of fishery manager recommendations regarding biological objectives and increased river flows.

According to the decision, the Council owes "heavy deference" to the expertise and recommendations of the state and federal fish agencies and the Yakima Indian Nation.

Congress enacted the Northwest Power Act in 1980 to ensure the "equitable treatment" of fish and wildlife. It established a new obligation for the region and various federal agencies to protect fish and wildlife.

Congress also created the Pacific Northwest Electric Power and Conservation Planning Council, directing it to create a program to "protect, mitigate, and enhance" the Columbia River Basin's fish and wildlife "to the extent affected by the development and operation" of the basin's hydropower system. At the same time, the Act states that fish and wildlife protection measures cannot jeopardize "an adequate, efficient, economical and reliable power supply."

According to one Environmentalists, the Council has been "loath" to take on critical issues and has deferred to the "lowest common denominator". Pointing out that the decision makes it clear the Council failed to set biological objectives, the source says the Council also neglected to take steps to achieve mitigation and "did not listen to tribes."

Salmon runs are currently the lowest they have ever been, due to a combination of hydropower flows and drought conditions, the source says, stressing that salmon subpopulations in the Snake River will be extinct within five years if conditions do not improve.

In response to a petition for review filed by Direct Service Industries (DSIs) – mainly aluminum and chemical manufacturers that purchase power directly from the Bonneville Power Administration – the judges ruled that these industries failed to provide any evidence that the salmon strategy would threaten the economy or reliability of the region's power supply.

This is the only economic restraint in the fish and wildlife program. The Council does not have to conduct a cost-benefit analysis of particular measures in the salmon strategy, the court ruled, characterizing such an analysis as "antithetical to the purpose of the Act."

Drought conditions are more responsible for low salmon flows than hydropower, the industry source maintains. "Congress is transparent when it says hydro does not have to compensate for acts of God," this source maintains. The utility commission is "thinking strongly" about appealing the decision because the court failed to establish impacts to power suppliers, and "more than due weight" has been given to the fisheries and tribes, the source says. "The law says salmon will be protected if states and tribes are given management over the resource, but it does not say they should be given management over utilities," this source asserts. When Congress passed the Northwest Power Act, it said the Council must look at "tradeoffs" and evaluate all the needs of a multipurpose basin, the official says. "Congress said it must have a basis for trading off limited resources by ensuring the northwest has an adequate power supply."

Source: WATER POLICY REPORT, Vol. III, No. 20 - September 28,1994

New England Hydropower Agreement

In return for permission to continue generating electricity from its dams, the New England Power Company agreed to pay $25-30 million for environmental improvements along the Deerfield River. Company officials, activist groups, and government regulators drafted the plan, which requires the company to increase water flow over its dams for the next 40 years to aid Atlantic salmon habitat recovery in Vermont and Massachusetts.

Also, the company will protect a reservoir for loons and an 18,000 acre piece of wilderness near the Green Mountain National Forest.

Source: Land Letter, Vol. 13, No. 28, October 20, 1994

PL-566 Program Evaluation

The SCS Watershed Protection and Flood Prevention (Small Watershed) PL-566 program will be undergoing a thorough program evaluation according to SCS Chief Paul Johnson. A complete program evaluation started in September 1994 and is to be completed about February 1996.

The last complete PL-566 program evaluation was completed in July 1987. Normally such evaluations are designed to help gauge the success of a program in addressing conservation priorities outlined in the National Conservation Program (NCP). The evaluations measure the program effects in solving the identified problems, describe the benefits and costs, and provide USDA leaders with suggestions for program improvement. The 1987 evaluation showed that more benefits had been obtained by the program than had been originally claimed.

According to the 1987 evaluation sample, actual adjusted economic benefits accruing in 1984 exceeded the planned benefits by 34% overall. The implied actual ratio of benefit to cost, based on the annual benefits accruing in 1984, was approximately 2.2:1. The evaluation also discovered that the average cost for projects completed as planned exceeded planned costs by 10%.

The evaluation also raised a concern about the federal unfunded commitment, that some refer to as the "backlog." Addressing that "backlog" will be a second activity that SCS will undertake. This state-specific review will include looking at commitments made and attempt to eliminate any unfeasible work (economically or environmentally unfeasible) remaining in project plans. This review will be conducted in each state with sponsor involvement. First, sponsors and SCS specialists will screen all projects for any unfeasible elements. After that, a more rigorous analysis will look at any remaining elements that are to be constructed.

A proliferation of P.L. 566 projects is expected by some observers in the aftermath of the 1993 flood. This could spell disaster for some small river species such as the Topeka shiner and the Neosho madtom, already

madtom

threatened by disruptions in natural flows. In fact, the Topeka shiner is believed to rely on flash flooding to maintain its natural habitats (small stream scour holes).

Source: Watershed News, Vol. 4, Issue 4, September 1994

Natural Resource Budgets for Fiscal 1995

Congressional appropriators settled on FY95 spending levels for the four land management agencies, while managing to avoid a nasty floor fight on the Clinton administration's grazing and mining reform efforts. Beyond the mining issue, Interior conferees generally agreed with the administration's spending emphasis on natural resource programs, although at lower levels in most cases.

Among the exceptions were funding for construction projects, which in some cases received substantially more money than the administration wanted. Clinton also called for $240 million for the Agriculture Department's wetlands reserve program, but Congress agreed to $148 million less. Compared to FY94 spending, the Environmental Protection Agency was the biggest gainer, while the Fish and Wildlife Service, National Park Service, and Soil Conservation Service lost ground. The Bureau of Land Management and the Forest Service received modest increases, much of which is directed to maintenance and repair backlogs, as well as ecosystem, watershed and

riparian work. Significant funding in the Forest Service budget remains aimed at countering economic effects of the logging cutbacks in the Northwest.

The tables below display spending for selected natural resource programs, including actual spending for FY94 and the amount agreed to for FY95 by the House-Senate conference (i.e. the amounts shown are either signed or awaiting President Clinton's signature):

Land and Water Cons. Fund ($000)

	FY94	FY95
BLM	12,122	14,785
FWS	82,655	67,410
FS	64,250	65,436
NPS	67,197	59,936
State Grants (minus adm. exp.)	24,750	28,000
Total	250,974	235,567

ASCS ($000)

	FY94	FY95
Ag Conserv	194,650	100,000
H_2O Qual Incent	18,500	15,000
Forstry Incent	12,820	6,625
Water Bank	8,000	--
Emerg Conserv	25,000	--
CO River Salinity	13,783	4,500
Cons Reserv	1,743,274	1,743,274
Wetlands Reserv	66,675	93,200
Total Agency	2,064,202	1,947,599

Bureau of Land Management ($000)

	FY94	FY95
Lands/Res Mgmt	599,860	598,449
Enrgy & Minerls	70,876	68,479
Range Mgmt	44,249	52,242
Maintenance	32,809	32,930
Recreation	39,564	40,891
Cultural Res	11,801	12,082
Wilderness Mgmt	12,998	13,443
Recr Resources	25,104	25,986
Res Mgmt Plans	9,834	9,578
Soil/Water/Air	15,356	18,500
Wld Hrses/Burros	16,703	17,234
Wildl Habitat	23,250	25,250
Land Acquisition	12,122	14,785
Acquisition Mgmt	1,277	3,600
Forest Ecosystems	7,007	6,779
Range Improvmnt	10,025	10,350
O&C Grant Lands	82,052	97,550
Payments in Lieu of Taxes	104,108	104,108
Firefighting	117,143	114,968
Emergency DOI Firefighting	116,674	121,176
Total Agency	1,072,888	1,103,417

FY95 figures do not reflect a 0.191% decrease for all programs imposed to meet spending caps.

Bureau of Reclamation ($000)

	FY94	FY95
General Invest	13,819	14,190
Construction	464,423	432,727
O&M	282,898	284,300
Total Agency	901,527	892,486

Despite the administration's proposal to decrease the bureau's budget by 5%, the agency will receive level funding in FY95. With the bureau's traditional dam-building activities drawing to a close, the agency is expected to assist the National Park Service in removing several dams in the Seattle Olympic Peninsula region.

EPA ($000)

	FY94	FY95
Operating Prgms	2,541,861	2,689,000
Res & Devlpmnt	338,701	350,000
State Grants		
Clean Lakes	5,000	3,142
Wat Treat Const	2,477,000	2,962,000
State Loans	1,218,000	1,235,200
Drking Wat Loans	599,000	700,000
Spec Proj Grants	558,000	834,300
Non-point Source	80,000	100,000
Coop Agreements	22,000	22,500
Superfund	1,464,575	1,435,000
Lking Undgrnd Tnks	74,709	69,331
Total Agency	6,619,980	7,240,887

Congress matched the Administration's $100 million request to beef up non-point source pollution grants that are aimed at helping states develop and implement plans to control wet weather runoff from cities and farmland.

Fish & Wildlife Service ($000)

	FY94	FY95
Resource Mgmnt	481,623	511,555
Habitat Cons	42,425	56,416
End Species	58,703	74,264
Consultation	14,416	18,204
Listing	7,409	8,077
Prelisting	4,360	4,461
Permits	2,968	3,352
Recovery	29,550	40,166
Env Contam	8,969	9,516
Fisheries	67,320	66,032
Law Enforcmnt	34,687	35,419
Mig Bird Mgmt	15,234	15,469
Refuge O&M	165,977	168,904
Land Acquisition	82,655	67,410
Acquisit Mgmt	8,500	8,500
NWR Funds	12,000	11,977
N Am Wetl Cns Fnd	12,000	8,903
Coop End Sp Fnd	9,000	8,983
Const. & Anad. Fish	73,565	53,811
Total Agency	682,401	671,443

The Clinton administration proposed a 4.4% increase for FY95, but Congress instead sliced $10 million off the agency's budget. Construction spending was cut 26.9% ($20.3 million), but the $53.8 million appropriated is still $18.7 million more than the administration sought. Endangered species and habitat conservation funding got significant boosts over FY94 levels. Species recovery planning programs gained the most at 26.4% ($10.6 million), with habitat conservation programs up 24.7% ($14 million), and funding for consultations with other federal agencies to protect listed species up 20.8% ($3.8 million). Wildlife refuge management funding increased slightly over 1994. Congress hacked $15.2 million from the agency's land-buying account, approving 21.8% less money than the administration sought.

Forest Service ($000)

	FY94	FY95
Nat'l Forest Sys	1,308,823	1,345,112
Ecosystem Plans	147,846	150,100
Minerals & Lands	100,583	101,989
Range Mgmt	14,767	16,932
Recreation Use	209,769	216,958
Cultural Res	1,117	4,793
Recreation Mgmt	159,116	160,916
Wilderness Mgmt	49,535	51,249
Refor. & Timber Imp	62,339	56,900
Soil, Water & Air	36,250	48,435
Tmbr Sales Admin	189,199	181,392
Wildl & Fish Habitat	89,110	98,800
Land Acquisition	64,250	65,436
Acquisition Mgmt	8,500	8,491
Construction	252,802	203,186
Road Construction	97,345	99,101
Trail Construction	32,310	32,643
Forest Research	193,083	200,130
State/Priv Forestry	165,315	161,264
Emerg Pests	-15,000	-17,000
Firefighting	185,168	159,590
Emrgncy Firefigting	190,222	426,200
Total Agency	2,345,207	2,574,053

FY 95 figures do not reflect a 0.191% decrease for all programs imposed to meet spending caps.

National Biological Survey ($000)

	FY94	FY95
Research	82,796	81,883
Species Biology	20,974	19,835
Popn Dynamics	13,843	13,713
Ecosystems	47,979	48,338
Invntry/Mnitring	21,561	21,645
Tech Dev/Transf	13,783	13,916
Coop Res Units	15,349	15,214
Facilities O&M	15,603	16,568
Administration	16,698	17,364
Total Agency	167,209	166,890

FY95 figures do not reflect a 0.191% decrease for all programs imposed to meet spending caps. In FY95 the year-old National Biological Survey plans to develop biological data sharing partnerships with EPA, NOAA, the Forest Service, USGS and the Nature Conservancy. Reacting to growing concerns over the survey's potential effect on private property, conferees once again included language denying the use of funds for surveys on private property without the landowner's written consent. Due to property rights issues and lawmakers' continued resistance, Congress has never approved a bill authorizing creation of the agency.

National Park Service $000)

	FY94	FY95
Park Sys Oper	1,061,823	1,079,963
Res Stewardship	191,041	199,489
Visitor Services	230,057	242,976
Maintenance	396,082	383,526
Park Support	161,350	165,125
Land Acquis (total)	95,250	87,936
Park Svc Acquis	58,950	59,936
Acquisition Mgmt	8,247	8,800
State LWCF Grants	24,750	24,750
State Admin Exp	3,250	3,250
Construction	201,724	184,941
Nat'l Rec & Pres	42,585	43,023
Historic Pres Fund	40,000	41,500
Urbn Prk & Rec Fund	5,000	7,500
Total Agency	1,437,261	1,412,103

FY95 figures do not reflect a 0.191% decrease for all programs imposed to meet spending caps. While the Park Service lists a backlog of more than 335,000 acres, valued at $1.1 billion, the FY95 budget slashed land acquisition funds by 22% compared with 1994 levels.

Soil Conservation Service ($000)

	FY94	FY95
Conserv Opers	591,049	556,062
River Srvys/Invest	13,482	12,970
Watershed Planning	10,921	10,546
W'shed & Flood Prev	241,965	70,000
Res. Conserv & Dev	32,945	32,845
Grt Plains Cons Prog	25,658	15,172
Total Agency	1,235,362	697,595

Funding for the Soil Conservation Service was cut the most dramatically (43.5%) of any other natural resource agency. The decline in funding reflects the proposed reorganization of the SCS and the ASCS within the Agriculture Department. The administration proposed eliminating the SCS watershed and flood prevention program and requested just enough funds to shut it down. While rejecting the program's elimination, Congress did reduce its funding by more than two-thirds.

U.S. Army Corps of Engineers ($000)

	FY94	FY95
Construction	1,400,875	983,668
O&M	1,668,990	1,646,535
Wetl Res Prog	5,283	–
Gen Invest	207,540	181,199
Regulatory Prog	92,000	101,000
Total Agency	3,907,130	3,408,919

The Army Corps civil works budget was sharply reduced for FY95. While Congress didn't go as far as the Clinton Administration proposed, construction spending was cut by almost 30% ($417 million). No money was provided for Corps reorganization, although work continues on scaling down the agency.

Source: Land Letter, Special Report, Vol. 13, No. 26, October 1, 1994

Staff/Program Cuts Planned at FWS

The Fish and Wildlife Service (FWS) will have to cut its headquarters and central control staff by 50%, and reduce its workforce by as many as 900 full time equivalents (FTEs) by 1999, according to an internal agency memorandum obtained by *Land Letter*. The memo, dated September 20, was sent by FWS Deputy Director Bruce Blanchard to the FWS directorate focusing on the agency's "efforts to meet the Administration's national performance review goal to streamline administrative functions and downsize organizational layers." But Blanchard, himself, expressed concerns that the planned cuts reflect political priorities and could come at the expense of the resources the agency is charged with protecting.

The memo also concerns many regional officials who fear programs will have to be cut and resources left unmanaged as a result of decreased staff. "The target number has been set, but there's been no guidance as to what work is to be left undone," said one regional official who asked not be identified. Some of the cuts will be realized through attrition and through restructuring procurement and management operations, but that alone will not amount to 50%. The FWS employs roughly 7,500 people nationwide.

Exactly how many people, and which programs, will be affected by the cuts is not clear because the definition of "headquarters staff" and "central control staff" is flexible, but the impact could be significant, Blanchard says. Although the memo says the Interior Department recommended a reduction goal of 600 by 1999, Blanchard said the number of positions cut could reach 900.

The agency will not have any trouble meeting target reductions this year or next, but after that the belt tightening certainly will affect agency operations, he said. Planning for the 1997 budget cycle begins this winter, and draft recommendations will be submitted to OMB in May.

Agency watchers have reason to wonder how all this will affect the FWS's ability to manage refuges and wildlife, endangered species and ecological services programs. "They have to realize we're going to do less with less," Blanchard said. "You can't keep saying we're going to do more, when on the other hand, you reduce the resources and assets. You can't have both."

Source: Land Letter, Vol. 13, No. 29, November 1, 1994

February 23-24, Water, Nitrogen, and People: An International Conference, Everett, WA. Contact Craig MacConnell, Washington State University Extension, Whatcom County,1000 North Forest St., Suite 201, Bellingham, WA 98225-5594, (206) 676-6736. Sponsored by WSU Cooperative Extension, Washington State Department of Health, BC Environment, and U.S. EPA. Focuses on sustainability of the water resources and understanding the effect of nitrogen on water. Targets health officers, land use planners, public policy makers, agricultural commodity groups, environmental groups, tribes, local governments, conservation districts, and agricultural and water quality professionals.

February 28-March 3, International Erosion Control Association's 26th Annual Conference and Trade Exposition, Atlanta, GA. Contact John T. Price, IECA Program Chair, Price & Company, Inc.,425 36th Street, SW, Wyoming, MI 49548, (616) 530-8230. FAX: 530-2317. Topics include policy and management practices, methods and techniques, case histories, research and development, product introduction, and special topics.

April 3-7: "National Wetlands Workshop", Clarion Hotel, New Orleans, LA. Contact U.S. Army Engineer Waterways Experiment Station, Wetlands Research & Technology Center, Attn: CEWES-EP-W, 3909 Halls Ferry Road, Vicksburg, MS 39180-6199, (601) 634- 2569/4217; FAX (601) 634-3664.

May 14-18, Water Resources at Risk - 1995 Annual Meeting of the American Institute of Hydrology, Denver,CO. Contact James R. Kunkel, Advanced Sciences, Inc.,405 Urban Street, Suite 401, Lakewood, CO 80228. (303) 980-0036. FAX: (303) 980-1206. Purpose: describe issues, management strategies, and technologies in hydrology, hydrogeology, and mining hydrology. Conference will feature sessions on subjects of current concern in hydrology, poster sessions, short courses, and field trips.

May 31-June 2: "East Coast Trout Management and Culture Workshop II", Penn State University, State College, PA. Contact Marty Marcinko, 450 Robinson Lane, Pennsylvania Fish Commission, Bellefonte, PA 16823, (814) 359-5223. Theme of the workshop is "Looking to the Future: How Can We Meet the Need?", Co-sponsored by the American Fisheries Society's Northeastern Division and Southern Division's Trout Committee, Duke Power Co., National Park Service, Pennsylvania Fish Commission, and Tennessee Valley Authority.

June 5-9, 1995: "Sustainable Forests: Integrating the Experience International Conference", Sault Ste. Marie, MI, and Sault Ste. Marie, Ont. Contact Joan Jaffit, Conference Manager; (705) 759-2554; FAX (705) 256-6156.

June 12-14, 1995: "Third Reservoir Fisheries Symposium", Chattanooga Marriott at the Convention Center, Chattanooga, TN. Contact Steve Miranda, Chair, Third Reservoir Fisheries Symposium, Mississippi Cooperative Fish and Wildlife Research Unit, P.O. Drawer BX, Mississippi State, MS 39762; FAX (601) 325-8726.

July 16-19, Interdisciplinary Conference on Animal Waste and the Land-Water Interface, Fayetteville, AR. Contact Patti Snodgrass, Arkansas Water Resource Center, 113 Ozark Hall University of Arkansas, Fayetteville, AR 72701. (501) 575-4403. FAX: (501) 575-3846. The purpose of the conference is to provide a forum for interdisciplinary, holistic discussion of animal waste, soil and water interactions. Proposed topics: waste characteristics and edge-of-field losses, impact on stream and lake ecology, watershed management, BMPs, alternative uses, regulatory vs. voluntary programs, and socio-economic considerations.

September 28-30, Watersheds '94 Expo. Bellevue, Washington. Contact Andrea Lindsay, U.S. Environmental Protection Agency WD-125, 1200 Sixth Ave., Seattle, WA 98101; (800) 424-4EPA.

Merry Christmas!

Agriculture

H.R. 5053 (Pomeroy, D/ND) expands eligibility for the Wetlands Reserve Program to lands covered by expiring agreements under the Water Bank Act.

Fish & Wildlife

Senate Environment Committee concluded hearings September 29 on **S. 1521**, which aims to authorize funds and improve programs under the Endangered Species Act.

H.R. 5073 (Smith, R/TX) and S. 2451 (Hutchison, R/TX) aim to ensure that private property rights are not infringed by implementation of the Endangered Species Act by requiring compensation for economic losses stemming from critical habitat designations.

H.R. 5144 (Edwards, D/TX) would prohibit the new listing of species or the designating of critical habitat under the Endangered Species Act until the law is reauthorized.

S. 2553 (Boxer, D/CA) amends the Endangered Species Act to authorize the Interior Secretary to enter into cooperative agreements with states and localities to assist in habitat acquisition and carry out conservation plans.

Government Affairs

On October 7, the House passed **S. 455** to increase federal payment-in-lieu-of-taxes payments to local governments for entitlement lands, clearing the measure for the President.

Public Lands

On October 7, the House passed **H.R. 4946** to establish the Midewin National Tallgrass Prairie in Illinois.

On September 20, House Agriculture, Natural Resources, and Merchant Marine panels held a joint hearing on the use of ecosystem management techniques on public lands.

S. 2543 (Boren, D/OK) amends the Forest and Rangeland Renewable Resources Planning Act of 1974, the Federal Land Policy and Management Act of 1976, the National Wildlife Refuge System Administration Act of 1966 and other laws to strengthen the protection of native biodiversity, prohibit extractive logging in designated areas, and limit the use of clearcutting and other techniques.

Refuges

House Merchant Marine panel on August 9 held a hearing on **H.R. 833, the National Wildlife Refuge System Management and Policy Act**.

H.R. 4827 (Sensenbrenner, R-WI) prohibits acquisition of land or waters for the National Wildlife Refuge System if wildlife revenue sharing payments have not been made for the preceding fiscal year.

Water and Wetlands

On October 4, Senate passed **H.R. 4308** to authorize appropriations to carry out the North American Wetlands Conservation Act for fiscal years 1995-1998, clearing the measure for the President.

2490 (Pressler, R/SD) amends the Clean Water Act to establish a comprehensive program for conserving and managing wetlands and waters of the United States.

S. 2506 (Johnston, D/LA) reforms the regulation of wetlands under the Clean Water Act by such means as establishing a ranking system for regulating wetlands.

Water Projects

H.R. 4909 (Dicks, D/WA) promotes increased flexibility for the use of funds allocated to hydropower projects.

Wild and Scenic Rivers

H.R. 5107 (Williams, D/MT) to provide for the study of Rock Creek in Montana for potential inclusion in the wild and scenic river system.

Source: Land Letter, Source: Land Letter, Status Report, Vol. 13, No. 27, October 15, 1994

ICRA
Mississippi Interstate Cooperative Resource Agreement
608 East Cherry - Columbia, MO 65201 - (314) 876-1911

READER'S SURVEY

This "Reader's Survey" is an effort to identify our regular readers, to streamline our mailing list in order to reduce printing and postage costs, and to better serve our readers by soliciting their views. In order to ensure that your name remains on our mailing list, please answer the questions below and return this form to our office at your earliest convenience (preferably before January 15, 1995 in order to make the mailing deadline for our next issue). If you do not respond we will assume that "*River Crossings*" is not being read, and your name may be dropped from our mailing list. We look forward to hearing from you, and especially appreciate receiving your written comments.

_____ I enjoy reading "River Crossings", and wish to remain on your mailing list.

_____ I do not wish to remain on the "River Crossings" mailing list.

_____ I know that printing costs and postage continue to escalate. In order to help defray those costs, and to ensure that I continue to receive *River Crossings* I would be willing to help offset those costs by paying an annual subscription rate of ____ $0.00, ____ $5.00, ____ $10.00, ___ $15.00, or ___$20.00.

Additional Comments:

_____

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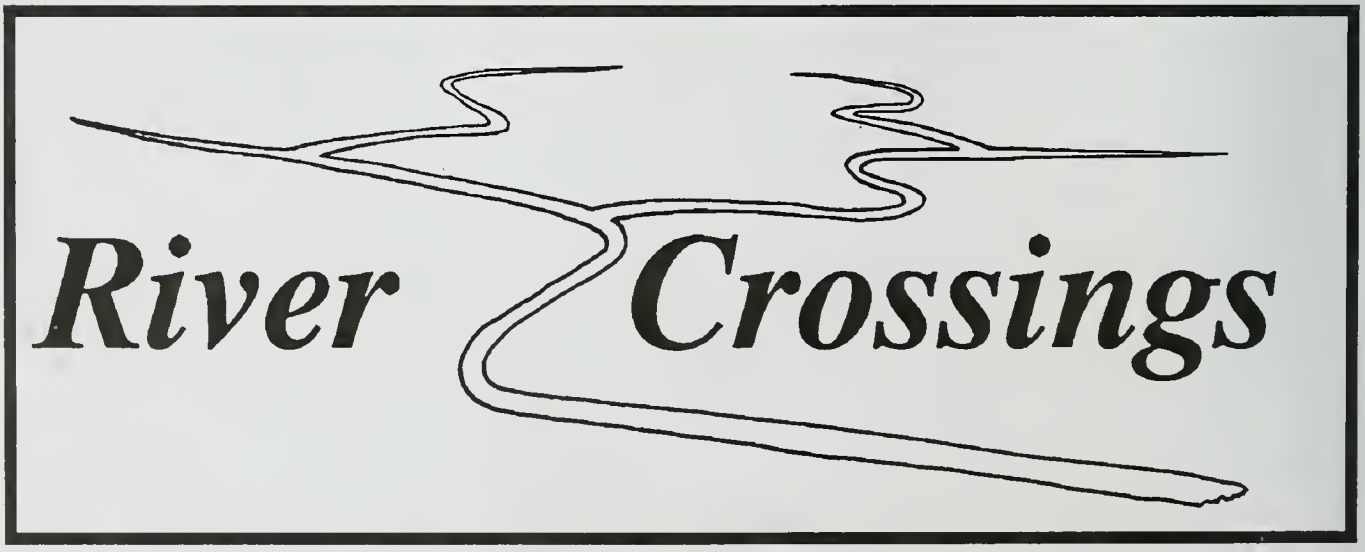
Thank you for your assistance and continued interest in river issues.

Sincerely,

Jerry L. Rasmussen
Executive Secretary/Coordinator

Mississippi Interstate Cooperative Resource Association
608 East Cherry
Columbia, MO 65201



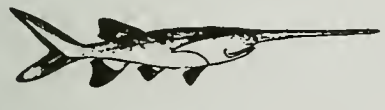
River Crossings

Volume 4 January/February 1995 Number 1

MICRA Paddlefish Survey

Beginning in February 1995 MICRA initiated a major basinwide paddlefish stock assessment, distribution, movement, harvest and exploitation survey. The project is sponsored by the U.S. Fish & Wildlife Service (FWS) through funding of the Dingell-Johnson Federal Aid to Sport Fish Restoration Program. Funding for that program comes from excise taxes levied on fishing tackle and gear.

Seventeen states (AR,IL,IN,IA,KS,KY,LA, PA,MN,MS,MO,NE,OH,SD,TN,WV, and WI) will participate this year, with plans to include the remaining basin states, where paddlefish occur, in future years. The State's shared concern for the welfare of the paddlefish was a primary reason for MICRA's formation.



paddlefish

Some states have listed the paddlefish on their protected species list, while others maintain sport and/or commercial fisheries for the species. The FWS was recently petitioned to list the paddlefish on the federal list of threatened and endangered species. While not currently listed, the species remains on the federal "watch list".

Paddlefish were historical distributed in most of the Mississippi River Basin's larger rivers, but little is known about their present distribution, movements, and habitats. For example, there is concern that fish being harvested in one state may, in fact, have been produced far away in another state or river where the species may be listed as protected. Such information is essential to develop appropriate management measures to protect and restore the species.

The MICRA survey will use coded wire tags. These state-of-the-art, sequentially numbered tags will be distributed to participating states and entities for use in marking paddlefish in their jurisdictional waters. Each sequentially numbered tag will be coded to identify tagging date and specific river mile where fish were collected or stocked. Habitat (i.e. backwater, side channel, tailwater, etc.) where fish are taken will also be recorded. MICRA hopes that all paddlefish stocked in the Basin will in the future carry the MICRA tag.

A major publicity and public participation program involving both sport and commercial fishermen will be used, as will a tag recovery reward program. MICRA will develop informational signs and brochures for distribution by participating states and entities to strategic individuals and locations (i.e. media, fishing clubs, bait shops, etc.) throughout the Basin.

INSIDE THIS ISSUE

Tags, located internally in the fish, will be impossible for fishermen to see, so return of the marked paddlefish body part (i.e. dorsal fin or rostrum) from harvested fish will be required. Field biologists, however, will use a special wand to detect and recover coded wire tags without sacrificing the fish.

Recovery of both tagged and untagged fish will enhance the statistical power of the study, improving the reliability of estimated population size and exploitation rates. Fishermen returning tags will receive a reward and be eligible for other prizes supplied by various vendors.

Such a large scale effort (involving 17 states) has never before been conducted on a warmwater, interjurisdictional species. The MICRA survey will rival similar studies conducted in the northwest on Pacific coast salmon.

Flood's Lesson Manual Adrift

"The Galloway report has entered the black hole that has become the White House," according to Scott Faber of American Rivers. The report, named for the task force head, Brig. Gen. Gerald E. Galloway, made more than 80 recommendations to revamp federal response to floods. The report was summarized in Volume 3, No. 3 of *River Crossings*.

"Here we are: the Midwest, Texas, Georgia, now California," said Larry Larson, executive director of the Association of State Floodplain Managers, "Every year, we have a dozen presidential disaster declarations for flooding, and there goes another basketful of money for disaster relief."

The Midwest flood alone caused $12 billion in damages, $5.4 billion of which was covered by the federal government. Since then flooding in Georgia, Texas and California has run up the damage bill by at least $1 billion more.

Michael Davis, associate director for natural resources in the White House Council on Environmental Quality, said the administration was not ignoring the Galloway recommendations and hoped to make final decisions by March. "It's still very much a priority issue, but it's slipped a little," he said. "It's really a function of workload. There's a relatively small staff at the White House and Office of Management and Budget that are working on a lot of different issues that are important."

But politics also has played a role, said Faber, of American Rivers. "There are strong opponents of implementing the reforms suggested by Galloway," he said. Developers and property-rights groups have balked at proposals that would encourage local governments to adopt stricter zoning and building codes. Development of flood-prone land was blamed for increasing flood damage in the Midwest and, most recently, in California.

The Army Corps of Engineers also is not happy with proposals that would require it to give greater weight to the environmental impact of building new dams, levees or other river management structures. And some agencies have criticized plans to revive the Water Resources Council, which would have broad power to coordinate flood policies across the federal bureaucracy.

Opponents of changing floodplain management policy gained some powerful new allies, including Sen. Christopher S. Bond (R/MO), when Republicans took control of Congress in the November elections. Before the election, Bond was instrumental in blocking a vote on legislation that would have written many of the Galloway recommendations into law. Bond objected to provisions that would have made it harder for the Corps of Engineers to rebuild some levees destroyed by flooding along both the

River Crossings

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608 East Cherry
Columbia, MO 65201

River Crossings is a mechanism for communication, information transfer, and coordination between agencies, groups and persons responsible for and/or interested in preserving and protecting the aquatic resources of the Mississippi River Drainage Basin through improved communication and management. Information provided by the newsletter, or opinions expressed in it by contributing authors are provided in the spirit of "open communication", and do not necessarily reflect the position of MICRA or any of its member States or Entities. Any comments related to "River Crossings" should be directed to the MICRA Chairman.

Missouri and Mississippi rivers. But he was equally angered by language that had little to do with floodplain management, but a lot to do with Missouri River politics.

Sen. Max Baucus (D/MT), then chairman of the Senate Environment and Public Works Committee, included a provision in his bill (summarized in Vol. 3, No. 5 of *River Crossings*) that called for giving preference to recreational interests on the upper Missouri River at, according to Bond, the expense of navigational interests downstream.

In the new Republican Congress, Baucus is no longer chairman of the committee and hence no longer able to control its agenda. Moreover, Bond won a seat on the committee in the new Congress and, as a member of the majority, will have a stronger voice in shaping policy. A Senate aide who has worked on floodplain management issues said, "I'm not optimistic in this session of Congress that we can get much accomplished. It may be they just got sideswiped by the election."

Larson, of the state floodplain managers association, said there were some positive signs of change. When James Lee Witt took over as director of the Federal Emergency Management Agency (FEMA) in 1992, he ordered the agency to consider mitigation in its response to disasters. Mitigation means spending federal disaster aid on programs that will reduce future damage. For the first time, instead of the feds coming in and saying we'll help you build a levee, they are helping people move," Larson said. "There were 6,000 federal buyouts in the Midwest. That's absolutely huge compared to purchases in the last 20 years".

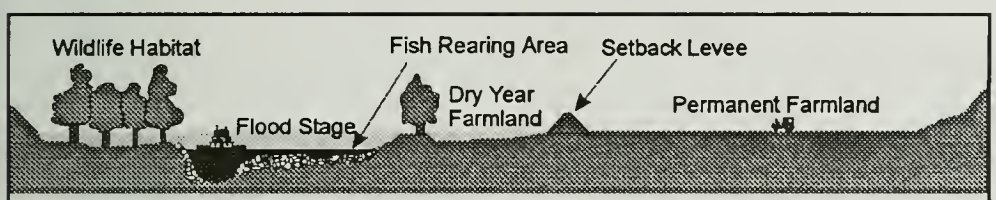
"FEMA used that same approach in the Georgia and Texas floods. And I expect them to use it in California." But to be effective, said Larson and others, FEMA cannot act alone and needs the backing of an administration-wide policy. "This isn't politically popular," Larson said. "But in the long term, to reduce disaster costs and get rid of a big drain on the budget, they've got to make some of these changes. And make them permanent."

Source: St. Louis Post-Dispatch, 1-22-95

DeJa Vu in Europe

For those involved, in one way or another, in the 1993 Mississippi River flooding, the following quote taken from the Columbia Tribune (2-2-95) regarding flooding in the Netherlands, and attitudes of the Dutch seems all too familiar:

"'These dikes have been here since the 13th century ... And they just haven't been kept up ... Because of all the crap by the environmental freaks, nothing is happening ... You need to have an eye for the landscape, but its more important to look out for the people ... This is going to cost billions."



Setback levees provide for ecosystem management, balancing developmental and environmental needs, and preserving river floodplain integrity, while providing for compatible floodplain uses.

Illinois River Strategy Team

Lt. Gov. Bob Kustra recently announced the formation of the Illinois River Strategy Team, a task force of business, conservation and agriculture leaders that will work to begin a long-range planning process for the Illinois River floodplain ecosystem.

"The Illinois River was once unparalleled in this country as a natural resource," Kustra said. "But since the turn of the century, the river has experienced a catastrophic decline in its abundance of plants and animals." "We hope to turn that around," Kustra added. "With the advice of a new advisory committee of ecologists and economists, the Illinois River Strategy Team will try to preserve those portions of the river's ecosystem that are in good shape and to restore to health other parts."

"Now is the perfect time to begin such an endeavor. There are many opportunities in the Illinois River Valley to improve the environmental quality, enhance recreation and reduce potential damage from future floods," Kustra said. "We must keep in mind the importance of continued farming operations along the river and explore ways to both protect our river and our economy."

Kustra explained that Phase 1 of the plan will focus on selection of innovative and reproducible model projects in the Illinois River Valley. "The team already has inventoried all of the current projects that the local, state and federal governments are doing," Kustra said. "For the first time, we will be able to prioritize all the projects now underway and try to link all these local, state and federal efforts to protect and improve this river," Kustra noted. The team will solicit suggestions for model projects from organizations and interested individuals. "...Once we have chosen those projects, we then will get on with developing a full ecosystem restoration plan for the entire Illinois River system, Kustra said.

Source: Illinois Agr-News, La Salle, 10-21-94

Missouri River - A View from Upstream

According to South Dakota Governor Bill Janklow it's easy to understand what motivates Missouri's and other downstream states' views of the

Missouri River. "You can sum it up in one word. It all comes down to one thing – 'Greed'". Downstream states (Missouri, Nebraska and Iowa) oppose an Army Corps of Engineers plan to put recreation on an equal footing with navigation in determining river flow. South Dakota, North Dakota, and Montana support the change.

"The downstream states have never recognized that we are all in this together. This is the most selfish thing I have ever seen in public life," Janklow said last year in an interview with the Yankton Press & Dakotan. "Recreation represents by far the greater economic benefit," said Sen. Tom Daschle, D/SD. "This plan begins to put us on the right track." The Corps values recreation at about $77 million annually, while the estimated value of navigation is $15 million. Despite the shift, the Corps' says that downstream states will continue to receive 68% of the river's benefits, or $752 million, while upstream states' benefits would be set at $360 million, or 32%.

Political leaders in Missouri, Iowa, and Nebraska have objected and have threatened congressional action. They also want the Clinton administration to let them review the manual again before it is put into effect. They are concerned that the plan would result in increased flooding in the spring and a shortened navigation season in the fall. They also argue the plan would increase air pollution by shifting goods from barges to heavy trucks and trains. According to the Associated Press, David Shorr, Director of the Missouri Department of Natural Resources, says the plan "stinks". Shorr says "It is, very simply put, an attempt to transfer water rights from the lower basin states to the upper basin states so they can have more fun with their little boats. We get ripped off."

Janklow said, "A public official who makes the kind of statements that Shorr made is either lying or they don't know the facts. That kind of person does not belong on the public payroll." Federal officials acknowledged that they had no rational reason for rating any one benefit, other than flood control, higher than another, Janklow said. "As a result, they agreed to consider recreation equally with the other benefits," he said, "...Now the downstream states are talking like they own the river."

The Flood Control Act of 1944 created the Missouri River dams, and the dams created huge reservoirs in the upstream states. South Dakota lost 536,875 acres of rich river bottom land to the reservoirs. More than 1.2 million acres were lost in the Dakotas and Montana. For that sacrifice, the states were promised federal irrigation projects, cheap hydroelectric power and flood control. Recreation, domestic and municipal water and other uses were not considered significant. Nearly 1

million acres were to be irrigated in South Dakota. "No one anticipated that the agricultural development would not occur. The federal government failed to fund most of the irrigation projects, and the projected 21 million tons of grain which would be shipped from Sioux City is less than 2 million." Janklow said. "None of that promised agricultural development occurred, and in the meantime, the downstream states have grown accustomed to their greed."

South Dakota's share of the electric power from the dams is less than one-fifth of what is generated, yet the state is home to four of the six dams. Nebraska gets about 19%. North Dakota and Montana receive smaller amounts. Minnesota, which lost nothing to the development, gets 24% of the power. Iowa gets 19%.

Recreation, which was not a factor when the plan was enacted, has become the biggest benefit. Since Gavins Point Dam near Yankton, SD is the lower most dam on the river, the reservoir behind it, Lewis and Clark Lake, remains more stable and has developed as a tourist attraction. South Dakota leaders want more permanent storage for the other reservoirs so similar developments could occur.

A point the Associated Press article failed to note was the fact that under the federal Pick Sloan Plan; which authorized reservoir construction; Iowa, Nebraska, Kansas, and Missouri were to provide land for a "setback levee" flood control system downstream of Gavins Point Dam. This system was never put in place due, in large part, to land owner opposition. Landowners living adjacent to the river, especially in Missouri, received huge, "windfall" land holdings from the Pick Sloan river channelization project.

As the river was channelized, its former backwater and side channel habitats were filled with sediments and most of these lands became the "free and clear" private property of adjacent land owners. These lands were then drained and farmed (also through federal subsidies). In most cases land owners chose to build their own levees and to farm right up to the river's edge instead of participating in the federal Pick Sloan setback levee flood control system.

Critics, during the 1993 flood, argued that this landowner decision exacerbated the flooding problem and escalated public expenditure to recover from the 1993 floods. Conversion of riparian habitats to farm lands also played a major role in the destruction of the River's ecosystem, which is now unable to support its native species.

According to Corps of Engineers figures, the lands of upstream states, inundated by federal reservoirs, provided significant flood storage

capacity and flood damage reduction for downstream states during the 1993 floods. It therefore seems fair for South Dakota, North Dakota, and Montana to claim that their floodplain lands and land rights were transferred by the Pick Sloan project to the private holdings and interests of downstream states. So its easy to see why this is such an emotional issue to all involved.

Source: The Associated Press

Missouri vs Sturgeon

The state of Missouri is laying groundwork for a legal challenge to proposed changes in Missouri River flow management that are intended to benefit the endangered pallid sturgeon. Using Freedom of Information Act requests, the state has obtained documents from the U.S. Department of the Interior concerning pallid sturgeon genetics and just how proposed changes in river flows are supposed to aid recovery.

pallid sturgeon

U.S. Army Corps of Engineers' proposed changes to water released from six upstream dams (currently under review) would alter Missouri River flows to more closely mimic natural flows. These releases would produce a higher spring rise, and probably more flooding, as well as a reduced flow in the fall that would reduce the barge navigation season by one month. Biologists believe the changes would act as natural triggers which would improve sturgeon spawning. The plan would also help the endangered interior least tern and the threatened piping plover by reclaiming sandbar nesting sites.

Missouri Attorney General Jay Nixon said, "...We hope they (the Corps) will come back to the primary role of that river as a transportation channel." The Corps will take comments on the plan through March 1, with final implementation planned in 1996. Ron Kucera, director of intergovernmental relations for the Missouri Department of Natural Resources, said Missouri does not believe the "full range of options" to save the sturgeon - other than changing the river flow - have been explored.

Missouri is trying to portray the Corps proposal as an economic issue affecting the entire nation. Kucera said the state has found that there could be impacts on Mississippi River barge traffic if flows are reduced each fall. In addition, he said, the plan benefits upstream states and their huge reservoirs by making much more water available for irrigation and recreation at the expense of the downstream states. "This is not just an endangered species issue," Kucera said. "The underlying battle is the ability to use and exploit the water. The Endangered Species Act shouldn't be used as a club."

Meanwhile, the Missouri Department of Conservation has stocked the river with pallid sturgeon raised at a state fish hatchery. Biologist Kim Graham said 17 of the tagged fish have been found in good condition since they were released last spring in the Missouri and Mississippi rivers. "I think those fish are going to make it," Graham said. "If we can get the base population built up, when they become sexually mature, I think we've got a chance for natural reproduction." But Graham said the underlying cause of the pallid's decline is loss of natural habitat, a direct result of the man-made changes in the Missouri River. "A stocking program is just a stopgap measure," he said.

Source: Columbia Daily Tribune Jan. 29, 1995

Sturgeon Genetics - The Current "Bottom Line"

Three genetic studies have been conducted to assess relationships of sturgeons of the genus *Scaphirhynchus* (pallid, shovelnose, and Alabama sturgeon). All three have attempted to discover consistent genetic differences between pallid and shovelnose sturgeon, and two of the three have compared all three sturgeons. Two of the studies have examined variation in nuclear DNA, one directly (the Genetic Analyses study of PCR-amplified DNA fragments) and one indirectly (the allozyme study of 37 gene products of Phelps and Allendorf (Copeia 1983: 696-700)). The third study, supervised by Schill, compared sequences of segments of the mitochondrial DNA cytochrome b gene. The results can be reviewed from the perspective of two major questions: 1) are pallid and shovelnose sturgeon different species, and if so, what is the extent of hybridization between them; and 2) is the Alabama sturgeon genetically distinct from either pallid or shovelnose sturgeon?

shovelnose sturgeon

Pallid vs Shovelnose - None of the studies detected significant genetic differences between pallid and shovelnose sturgeon. The mtDNA sequences of one individual of each species were identical, and the four polymorphic loci identified in the other two studies yielded similar allele frequencies for each species. All other loci and fragments examined were very similar or identical. These results would be expected if pallid and shovelnose sturgeon were in fact the same species. Does this guarantee that they are one species? No. If the two types had diverged very recently or if *Scaphirhynchus* molecular evolution were very slow, sequences and allele frequencies may have diverged only a little from the ancestral type. Alternatively, there may be sufficient gene exchange (i.e. hybridization) to bring allele frequencies to equilibrium frequencies; Slatkin has shown that only a few exchanges/generations are enough to produce genetic identity. In sum, there is no genetic evidence supporting the contention that pallid and shovelnose sturgeon are different species, but there is strong but insufficient evidence to conclude that they certainly are one species. How

much evidence for conspecificity is enough? This question probably cannot be answered, but if no genetic differentiation can be demonstrated after repeated efforts, the only genetic consideration in recovery efforts is avoidance of loss of genetic variability in each management unit established by morphological criteria.

Alabama Sturgeon - The two genetic studies conducted so far have reached different conclusions. The mtDNA sequence of the single Alabama individual is identical to that of both pallid and shovelnose sturgeon. At the nuclear DNA level, the Alabama individual has the common sturgeon genotype at the one polymorphic locus analyzed, but when the total available nuclear DNA markers are assessed, considerable genetic differences between the Alabama and both shovelnose and pallid sturgeon individuals are observed. Is the Alabama sturgeon the same species as shovelnose, pallid, or both? The nuclear DNA differences suggest that the Alabama sturgeon is much more different genetically from either shovelnose or pallid than the latter two species are from each other. However, this result is based upon only one individual. A second individual would document whether the observed differences are consistent; based upon the very low levels of geographic and individual variability observed in pallid and shovelnose sturgeon, one more individual should be enough to test consistency. Genetic differentiation without question implies the presence of two separate gene pools, whether or not they are described as species.

Source: Genetic Studies of *Scaphirynchus spp.*, Genetic Analyses Inc., P.O. Box 598, Smithville, TX 78957, November, 1994.

Alabama Sturgeon Withdrawn

Mollie Beattie, Director of the U.S. Fish and Wildlife Service announced on December 5th her decision to withdraw the proposal to list the Alabama sturgeon as an endangered species. She said in her news release that she did not believe the listing is warranted at this time because of the lack of evidence that the Alabama sturgeon still exists in the wild. Despite more than 3 years of searching we have been able to capture only one Alabama sturgeon. "I cannot endorse listing a species with so little information, she said.

It is apparent from the information we have developed that damage to sturgeons found in the Alabama and Tombigbee rivers occurred years ago from dams built on the rivers, water quality, past habitat destruction, and perhaps commercial fishing. This information also indicates that current activities on these rivers will not have adverse effects on any undiscovered wild Alabama sturgeon populations.

In lieu of listing, the Service will continue to look for wild Alabama surgeons. If Alabama sturgeons are found, the Endangered Species Act provides the Service flexibility to list them on an emergency basis. We will continue our ongoing efforts to learn more about the Alabama sturgeon and its habitat. Those efforts will continue in the Alabama River through next spring. Meanwhile, the Alabama sturgeon will remain protected under state law, as it is currently.

1995 Conservation Outlook

Public Support - According to a Peter Hart Research Associates poll, released December 21 by Jay Hair, president of the National Wildlife Federation, there is continued strong public support for environmental protection. According to the poll, fewer than 7% of voters were thinking about environmental issues when they chose candidates. Among all voters, 62% favored strong or stronger environmental protection with 18% opposed. Among Republicans, 55% thought environmental laws don't go far enough or strike the right balance, while 25% said they go too far. League of Conservation Voters pollsters found that 83% of voters consider themselves environmentalists.

Budget Cutting - Some Republicans are expected use the budget process rather than a regulatory agenda to reduce or eliminate funding for programs they oppose. Spending caps will force continued declines in many agency budgets, particularly those that affect natural resources. Programs that fail to win reauthorization this year could find themselves without funding next year. Interior appropriations panel chairman Ralph Regula (R/OH) has pledged to withhold funds for any programs that lack authorizing legislation. Regula, who has a strong environmental record, reportedly made that pledge to appease fellow Republicans concerned about his priorities, sources said. Many observers predict funding for the National Biological Service, which was not authorized last year, could be among the first to be stricken. The U.S. Geological Survey, Bureau of Mines, and various Interior and Agriculture department programs also are threatened.

Relaxed Regulations - Advocates of relaxed environmental regulations could find new friends in House Agriculture Committee Chairman Pat Roberts (R/KS), who earned a 93% rating from the League of Private Property Rights Voters and a 4% grade from the League of Conservation Voters, and incoming Senate Agriculture Chairman Richard Lugar (R/IN), who scored 70% and 31% respectively.

Farm Bill - Aside from the budget, the most significant environmental debates may take place during the expected reauthorization of the farm bill. The 36 million acre Conservation Reserve Program (CRP) is expected to survive the budget ax, though perhaps in a different form. The program's contribution to soil erosion control has been questioned, but its contribution to wildlife habitat enhancement has been

an unqualified success. Farm groups support the program, but worry it could be pined against more traditional commodity programs.

Wetlands - Depending on the political climate, controversial issues like wetlands protection and property rights could be addressed in the farm bill or deferred for later action. Many Republicans and conservative Democrats want to reform wetlands protection programs and could seek changes in the definition of wetlands in the Swampbuster provision to limit the scope of regulations. Adjusting the definition could exempt more than 10 million acres of prior-converted and other wetlands from regulation. Anti-regulatory forces are targeting Swampbuster and will most likely seek to pass a wetlands reform bill outside the context of Clean Water Act reauthorization. Don Young (R/AK) is planning to mark-up a free-standing wetlands bill similar to last year's H.R. 1330, sponsored by Rep. Jimmy Hayes (D/TX). House Republicans may have enough votes to pass a Hayes-style wetlands bill, said Bob Szabo of the reform minded National Wetlands Coalition, but outlook in the Senate is less clear. Environmentalists vehemently oppose the Hayes bill, because they believe it would weaken wetlands protection, which they say enjoys wide-spread public support.

Endangered Species Act - No federal environmental law has suffered as much rhetorical defilement as the Endangered Species Act, but despite harsh words and growing opposition, the controversial law will probably survive 1995 intact. The act was due for reauthorization in 1992, but Congress deferred action to see whether President Clinton's Northwest forest plan would be able to diffuse the tension between timber interests and efforts to protect the northern spotted owl. More recently, the growing private property rights movement has frustrated reauthorization efforts. Although a number of reauthorization bills were introduced and hearings were held last summer, bill sponsors feared that congressional preoccupation with "takings" compensation language would weaken species protection. With the Republicans intent on passing a free-standing private property rights protection measure through the Contract with America, the most controversial aspect of the species law may be addressed outside the context of reauthorization. If that happens, there will be far less pressure to amend the act. Once again, the law's opponents may seek to enact changes through the appropriations process. The law remains in effect and continues to receive appropriations, but Congress could slash funding or require that cost-benefit analyses be conducted for future projects it funds. Additional listings also could be barred. A key figure to watch in the Endangered Species Act debate is new House Speaker Newt Gingrich (R/GA) who last year co-sponsored an environmentalist backed reauthorization bill introduced by Reps. Gerry Studds (D/MA) and John Dingell (D/MI). If reauthorization is attempted, providing incentives for private landowners to preserve species will be a hot topic, as will the economic impact of listing decisions, and improving ecosystem management and multi-species recovery efforts. But takings will be the battleground, and a compensation provision like that in the Republican contract would go a long way toward gutting the act. Even some hard-core property rights activists consider the 10% trigger extreme. Rep. Billy Tauzin (D/LA), the notable House property rights advocate prefers a 50% trigger. Most sources agree that Congress will pass something dealing with private property rights, but whether it will be a symbolic gesture or a bill with far-reaching effect remains to be seen.

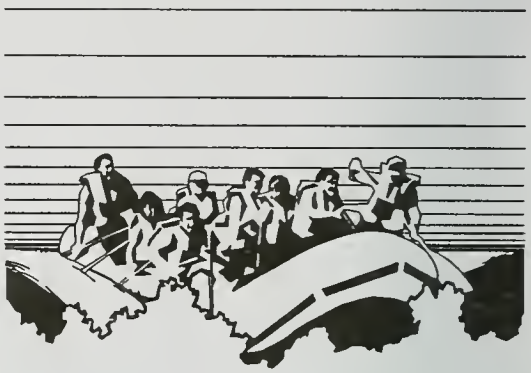
Clean Water Act - The outlook that Congress will take up reauthorization of the Clean Water Act is bleak this year. A comprehensive reauthorization bill cleared the Senate Environment Committee last spring, but only after deferring action on wetlands and other more controversial aspects. Action in the House, where water issues were split among four committees, ground to a halt last summer when House Public Works Chairman Norm Mineta (D/CA) failed to muster enough support to pass a bill that would strengthen water protection. Rep. Bud Shuster (R/PA), a 15% League of Conservation Voters scorer who will lead the renamed Transportation and Infrastructure Committee this year, wants to go ahead with reauthorization after addressing unfunded mandates concerns, but environmentalist-ally Rep. Sherwood Boehlert (R/NY) will head the committee's water resources panel and is expected to oppose a bill that weakens the act.

Grazing - In a major concession to Western interests, Interior Secretary Bruce Babbitt abandoned a controversial plan to increase public land grazing fees from his rangeland reform proposal on December 22. Babbitt called the move a "tactical retreat" aimed at preserving other regulatory provisions of the plan. Regulations within Babbitt's plan will not take place until six months after being published. This is to allow for congressional review, and Congress could overrule the plan, particularly if language on water rights, grazing

advisory panels, and ownership of range improvements remain onerous, said Jon Doggett of the American Farm Bureau Federation. According to Karl Gawell of The Wilderness Society, Babbitt's reversal is an opportunity to persuade budget-conscious lawmakers that "We're letting corporate cowboys get an outrageous subsidy". "If social security is on the table then corporate welfare should be too, Gawell said." The Society, and possibly other groups, will try to enact a politically smart, bipartisan fee increase, which protects the family rancher while charging the agribusinesses that hold the majority of grazing permits, he said. Hill sources suggest the fee issue could come up in the Senate, where lawmakers may attempt to impose a more modest fee hike palatable to industry. House Resources Committee Chairman Don Young and Senate Energy Committee Chairman Frank Murkowski, both Alaskans, scored zero on the League of Conservation Voters' 1994 scorecard, and tend to favor public land users in environmental disputes. They hold the key to grazing reform in the 104th Congress.

Clinton Forest Initiative - Congress probably will address the Clinton administration's forest health initiative, which was unveiled by Forest Service Chief Jack Ward Thomas in November. At issue there will be policies affecting salvage and thinning operations, particularly those designed to prevent fuel buildup that some believe worsens forest fires. Timber interests will be pushing for increased salvage operations as a means of ensuring a continued supply of timber, while environmentalists will oppose such measures, especially in roadless areas, beyond that absolutely necessary for forest health.

Mining Reform - A victim of fiercely partisan politicking, mining reform died in the 103rd Congress just as it seemed House and Senate conferees might be able to reach agreement on reforming the 123-year-old mining law. Now with Republicans in control and western conservatives strengthening their grip on public lands committees, mining reform could still be a front-burner issue, though any change will be modest and palatable to the industry. But how the 1872 law can stand up unscathed in a Congress hell-bent on ending subsidy programs and pork-barrel politics is a question Democrats and environmentalists will ask repeatedly unless the new leadership takes action. With committee chairmen Murkowski and Young sympathetic to their concerns, mining interests most certainly will push for modest reform that will end the horror stories about billion-dollar giveaways yet still protect their industry and livelihood. If Congress does pass a bill, even a weak one, President Clinton will have little choice but to sign it, lest he inadvertently protect the status quo. Environmentalists and mining reform advocates will have to lobby hard to keep what concessions the mining industry made last year in the areas of royalties and fees.



National Parks - Just about all park bills died without action in the last Congress, including long-awaited measures to reform the way concessions contracts are awarded. Both chambers passed a concessions reform bill last year, but the measure failed when conferees were unable to resolve minor differences before the close of the session. Sens. Robert Bennett (R/UT) and Dale Bumpers (D/AR) will push hard to enact reform this year, sources said. The outlook has improved, particularly because the bill's most outspoken critic, former Sen. Malcolm Wallop (R/WY) retired at the end of last session. Bills to reorganize the National Park Service and impose higher entrance fees at some parks also failed to pass. Environmentalists are lobbying hard for land acquisition funding and have received encouraging signals from the administration, sources said. Park Service Director Roger Kennedy released his reorganization plan December 12, but some congressional Republicans want to pursue more radical proposals, including those that would decrease the size of the park system by privatizing some parks and eliminating others.

Wild and Scenic Rivers - The 103rd Congress saw a decrease in the number of river miles added to the Wild and Scenic River System. At the start of 1994 more than 1,000 rivers had been identified by the Forest Service, Bureau of Land Management, and the Park Service as eligible for inclusion in the system. Suitability studies are underway for some of those, but few formal recommendations have been forthcoming. Sources doubt the new Congress will be any more receptive to expanding the river system than the last.

Wildlife Refuges - The U.S. Fish and Wildlife Service established the 500th National Wildlife Refuge last fall, but legislation to provide the agency with a new congressional mandate for the refuge system was held up because of controversy over what activities -- such as grazing, mining, hunting, and off-road vehicle use -- posed a threat to wildlife. The agency released a review November 29 that found most activities were compatible with refuge purposes, appeasing hunting and fishing groups who felt they were under attack by the agency and Sen. Bob Graham's (D/FL) bill. Graham has pledged to reintroduce his bill, which would establish a formal process for compatibility reviews and require a master plan for the system, this year. Most environmental groups support the Graham bill.

Other Legislation - Superfund and Safe Drinking Water Act reauthorization bills may see action. Other issues, including pesticide regulation, farm stewardship

guidelines, market-based commodity programs and water quality programs will be under scrutiny in the new Congress. Finding common ground between environmentalists and farm groups on conservation programs and stewardship incentives will be critical here, if such programs are to escape budget cuts. Environmentalists have pinned their hopes on Senate Environment Committee Chairman John Chafee (R/RI) a strong environmentalist who has come under fire from Republican colleagues for his green views. Property rights, risk assessment, and unfunded mandates top the committee's agenda, followed by reauthorization of Superfund and the Safe Drinking Water Act.

Source: Land Letter, SPECIAL REPORT, January 1,1995, Vol. 14, No. 1

Finish Off Endangered Species (FOES) ACTION PLAN

On January 19th while cruising down the Information Super Highway (ISH), one of our readers nearly had the Com Port of his 486SX blown off by a fast moving cybernaut using the "handle" – FOES1995@AOL.COM.

FOES1995@AOL.COM was picked up on the ISH as he/she/it sped down the passing lane of "America On Line" leaving only a trail of dust, a "hearty Hi Ho Silver", and a disturbing, if not irresponsible, message. That message was titled, "Finish Off Endangered Species (FOES) ACTION PLAN". Whether the FOES Action Plan is serious or a joke, it should serve as a "wake up call" for all those who care about such things as species diversity, open space, greenways, and quality of life. The text of the FOES Action Plan follows:

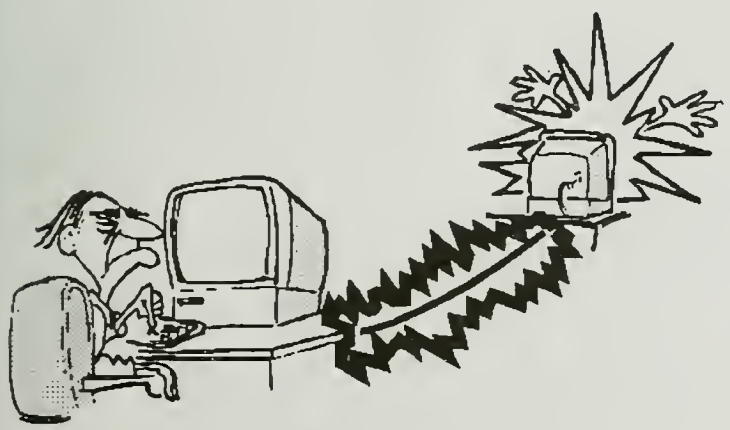
"In a few short months, the Endangered Species Act will be history. This plan explains how. America was a great country up to the late 1960's and early 1970's. Then, the whacko environmentalists took over and passed crazy laws. And the craziest law of all was the Endangered Species Act that said varmints, bugs, and poisonous plants are more important than people. Think about it. That law was passed in 1973 and that's when America really started going down the tubes.

'The Endangered Species Act is another Viet Nam. Since the sorry day the Endangered Species Act was passed, we have declined from our former greatness as a human civilization. At the same time, the bugs, birds, and other vermin have prospered. It's gone from bad to worse, and now thousands of hard working Americans and their families have lost everything because of endangered species. It's a sad day when people's homes burn down because of a stupid rat some fool put on a list. When a whole proud logging industry dies because of an owl that is too ignorant to live in healthy young tree farms. When we stop building dams that are the envy of the world.

'The critters are taking over and dragging this country down for the last count. Any nation that puts bugs before people is endangered, and that is the US today. Bad science, unfunded mandates, and taking private property all make good people the real endangered species. Why did this happen? Environmentalists are negative. They only know what they are against. They're always telling people: "Stop everything! You're no good!" They aren't for anything that has to do with people instead of their birds, briars and bugs. They are against growth and they are against private property. But they never met a critter they didn't like. They use endangered species as a gimmick to try to stop growth and progress. For many years, they fooled most of the people. But no longer. Now the people are taking back over from the birds.

"attitude problem"

'How do we fix it? Now we control Congress. We must move fast to get rid of this crazy law before people get confused again by environmentalist propaganda.



"fast moving cybernaut"

OUR MODEST PROPOSAL

Never Re-authorize - The Endangered Species Act has already lost its authorization. It happened in the last Congress. That means it's already twisting in the wind. We must see to it that it NEVER gets re-authorized. Endangered Humans Act, yes, Endangered Species Act, never again.

Choke Off the Appropriations Money - Next, we must make sure our friends choke off all money to implement the evil act. This will be easy to do. Starvation diet time! Easiest budget cut ever made.

Attack the Bureaucrats - We will attack the pointy-headed bureaucrats who inflict the law on people. We have a golden opportunity to get rid of the Fish and Wildlife Service and the Nationalistic Biological Serbia. And guess what, we've got help! The enviros don't like them either! Without the feds, the law is dead. But we must move fast before they fool people into supporting them.

Attack the Science - ALWAYS call the science bad. It works! The media always cover it if there is an opposing view. So tell people that endangered species is a fiction, that all species die at the end of their cycle. Demand proof that any species is really endangered. Talk about how the species that go are the defective ones that couldn't make it and needed to be culled. Talk about how new species are always evolving. Talk about how, if there are millions of species out there, losing a few can't make any difference. Talk about how the list of species is full of mistakes and has hybrids and other things that shouldn't be there. Science mixes people up. It scares them. Americans want things simple. The Know Nothings were right. We can help."

Interview with the FWS Director

Mollie Beattie is the first female director of the U.S. Fish and Wildlife Service (FWS), the federal agency charged with establishing national policy on many issues which effect interjurisdictional rivers. Both State and Federal fish and wildlife management agencies have traditionally been male dominated agencies, and *The Land Letter* recently published an interview with Director Beattie where they solicited her views on several current controversial issues.

The Land Letter interview described Director Beattie as "...something of an anomaly, her quiet style and unassuming air, belieing her passionate ideology, cut from the mold of conservationist Aldo Leopold."

What Director Beattie had to say in that interview made a lot of sense. Reasonable people could learn from her "common sense" approach and perhaps quell the "fast moving cybernauts" (FOES) and other radicals who are trying to dismantle decades of environmental progress by polluting the wires and the air waves with their non-sensical gibberish.

What follows are excerpts from *The Land Letter* interview with FWS Director Beattie:

Reforming the Endangered Species Act - "We went through a round-maybe a year, year and a half ago of coming up with a list of changes that we could make within our own authority, and we've addressed every one of those," she said. "We're now brainstorming another list to see what kind of further changes we can make ... we're going to continue this process until we believe we've exhausted all the flexibility that's in the act and answered the criticisms and the calls for improvement as best we can." "... when you ask about the future of the Endangered Species Act, obviously the Congress, the courts and our own skill at applying the act will determine it," Beattie said. "Relative to private land, we are still examining the potential of three or four categories (of actions) incentives, exemptions from the act or from the penalties in the act, and 'de minimis' sorts of provisions, which are really exemptions where, below a certain acreage (or impact), people wouldn't be held to the stricture ... I think if we sat down and came up with a statutory proposal ... I would be surprised if it didn't include more flexibility for habitat conservation plans, (including) more ability to do them for multiple species, whether they're on the list or not," Beattie said. She envisions a situation where agency officials go into a community, look at the whole ecosystem and its needs, and then get the state, towns, and local landowners to the table. "If we can get all those people to come to the table, and we all agree on long-term conservation - that's not preservation - that's conservation planning...," she said, "... I think you'll see us trying to push the act more toward the anticipatory side."

The Farm Bill - "We will be deeply involved because, since 1985, the farm bill has offered tremendous potential for wildlife habitat improvement that really hasn't cost farmers anything. It's a very powerful synergy between farmers and wildlife interests," Beattie said. "We support the Conservation Reserve Program, (and) we figure that with a little tailoring, which really wouldn't cost any more, we could have even greater impacts for wildlife. The farm bill is a great vehicle for essentially non-regulatory and generally cost-neutral wildlife conservation."

The National Biological Service (NBS) - "The Fish and Wildlife Service's original name was the U.S. Biological Survey. But the name conjures up images of phalanxes of researchers out running around the countryside surveying everything, and in fact that was never the intent." "(It was intended to be) a science service organization for the other bureaus," Beattie said. "It's given us a lot of credibility in the sense that we now can refer questions to people who understand our organization, its mission and its scientific basis, as well as anyone in the world and yet are a step away from us," she said. "We can have a lot more credibility by saying, 'Well, we don't really know what the answer is. We're going to ask the National Biological Service.'" "These issues of science and policy take a lot of thought to try to understand. Policymakers really need to have the science come through fairly pure. They can choose to override it and say, 'Thank you for the science, but there are social and economic reasons why we're going to do the other thing instead.' But they still have to have (science that is) not at all shaped by political and budgetary considerations." "When we gave the resources to the NBS, they took the funding with them. So if the funding disappears - and (Congress) gave us back the charge - we wouldn't be able to run it, because we wouldn't have any resources to do that," Beattie said.

Wildlife Refuges - "I am very straight-forward in saying that the balance falls to the conservation of wildlife," Beattie said. "I don't say that to exclude the other uses. But I firmly believe that what goes on in a wildlife refuge should be wildlife-related, whether that's wildlife-oriented recreation or conservation ... I do not support the notion that these are multiple-use public recreation lands to be used for the same purposes, for instance, as a national park or a national recreation area is used for. Refuges are set aside for the protection of wildlife. Wildlife has to remain first in

the system," she said.

Land Acquisition - "We're in a tight bind," Beattie said. "This is a very crude comparison and one in which a lot of caveats have to be applied, but the Park Service has roughly $14 an acre if you divide its budget by its acreage, and the National Wildlife Refuge System has $1.81. We're in a serious operations funding shortfall." "A lot of people ask us why we're still buying land, and the answer is ... we've been very sure to stick to our highest priority and only buy from the top of the list down. In many cases the alternative is that the land will be developed and the habitat lost. Even if we can't at the present time adequately staff a new refuge, it's still better to have the land in public ownership where the habitat still exists and people can enjoy it and hunt on it," she said. "It may not be staffed and there may not be a visitor's center or a parking lot. But it still seems preferable to us than having lost highly valuable habitat."

Downsizing - "The streamlining is an effort not to get rid of jobs, but to move them out to the field level." "So it should help us to get work done at the field level, on the refuges, out in the fisheries offices, because we'll be sending resources to them." "There is at the same time a downsizing effort going on as well, which is actually getting rid of jobs. We are aiming for that balance point where you can compensate for lost jobs with efficiencies, with automation - which (means) doing things better," Beattie said. "There is a balance point past where you are actually doing less things, and the downsizing initiatives are trying all the time to find that balance point ... The challenge for us is always that the priorities our statutes set - our principle statute being the Endangered Species Act - are really sort of crisis oriented ... yet the mission of the Service is probably in the long run better served by non-crisis oriented stuff like getting out and talking to private landowners and making sure that their stewardship is really good, so they never get to an endangered species listing."

The Legacy of Aldo Leopold - "I was just reading Aldo Leopold last night because there's a chance - a very small chance - that wolves could be reintroduced tomorrow (Jan. 11) ... and tomorrow is Aldo Leopold's birthday. I don't know if anyone else around here knows that, but I observe it every year. Aldo Leopold's consciousness of what he called the biotic community - and we call ecosystems - and how they work came out of an epiphany he had about the relationship between wolves and deer ... Leopold ... rarely got anything wrong when you consider he was writing 50 years ago. He talks about everything we're talking about right here. He talks about endangered species, he talks about the wise-use movement - although he obviously doesn't use those words - he talks about short-term economics and that kind of thing. The two things that he really got right more than anything are, first of all, stepping back and looking at the fact that we're part of this ecosystem and that really you can't separate the human interest from the fate of the earth or the fate of the animals. It's really all of a piece. Second of all that there's an ethical dimension here ... (it) basically says that the relationship we have with the earth and with the land has got to be an ethical one." "We can do all the regulating we want, but if we're not changing people's relationships with the land into an ethical one through other means, then we're not going to get anywhere. I think (Leopold) got it exactly right that government can only do so much in terms of buying land and regulating. And ... he's got that wonderful line about how if a thing is wrong and a thing is right. In this business, if there's anything you've got to remember at all times its right from wrong, and that is such a wonderful guideline." "On the wolf reintroduction there are people who want us to do it one way or another for political or publicity or whatever reasons. I mean, everybody has an interest in this outside the bureau right now. There's lots of pressure one way or another, and you can pick up Aldo Leopold and say, 'Hey wait a minute, what about what the wolves need?' That's all there is to it. Reading Aldo Leopold gives one backbone."

Goals as Director - "This organization has gone in a very short amount of time from one relatively insignificant among federal agencies to being where roughly 75 percent of the news-clips we get in here every day are (about) fish and wildlife issues," Beattie said. "In the time I've been here ... say, every 20th listing package that went through created a controversy. Now its every listing package ... and at the same time ... we're downsizing and streamlining. So leaving a legacy of an organization that thrived through that and managed to see it as an opportunity rather than a time of diminishment, I think would be really important."

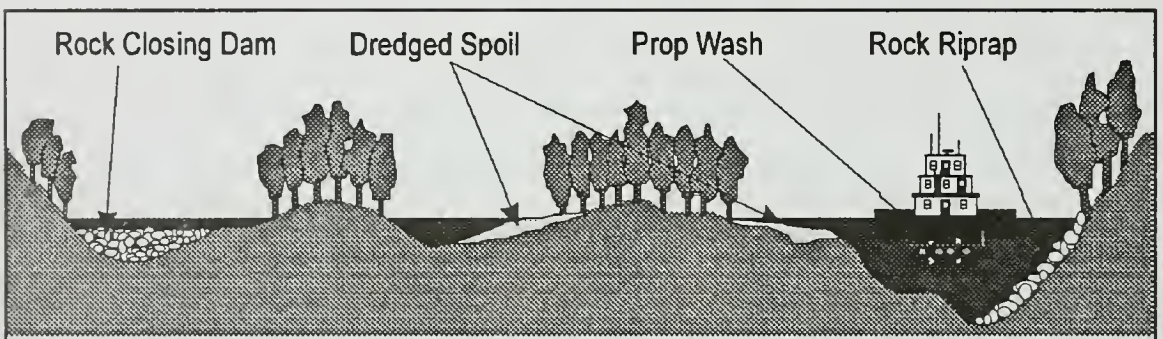
Personal Goals - "We need to take the lead in helping people who live in downtown Manhattan and the middle of Los Angeles to understand that this has something to do with them, even if they don't hunt and fish, even if they never go out and bird-watch," Beattie said. "Fish and wildlife and all their appeal are key to having people begin to think about their own dependence on the ecosystem and how fish and wildlife are both indicators and pieces of that system. (We also need) to help those people who are responsive to fish and wildlife understand that you can't love bears without loving salmon, and you can't love salmon without loving a lot of things that are not cuddly and cute. I mean, I've had more people say to me, 'We didn't pass the Endangered Species Act in order to save little rodents,' and I say, 'Well, do you have any idea what wolves eat?'" "One of my personal goals is to change the way people look at fish and wildlife and also

to keep the momentum and creativity that the service has towards that end going."

Source: Land Letter, SPECIAL REPORT, Vol. 14. No. 3

Upper Mississippi River (UMR) Navigation Study

The U.S. Army Corps of Engineers is funding yet another study to expand UMR navigation capacity. This time by enlarging several locks and dams between St. Louis and Dubuque. Lock and Dam 26 was enlarged at St. Louis in the late 1980's and early 1990's at a public cost of $1.2 billion.



Slackwater navigation dams disrupt natural hydrographs, and create shallow wetlands which fill with sediments and dredged spoil, while tow traffic impacts water quality and fish production.

The present study alone will cost $43 million.

The current study will also examine eight locks on the Illinois Waterway, which connects Chicago to the Mississippi River through the Chicago, Des Plaines and Illinois rivers. Construction of any new locks would cost the taxpayer billions more.

Three of the eight locks on the Illinois Waterway are regarded as congested, as are Mississippi River locks 22, 24 and 25 between Quincy, IL, and St. Louis. According to the Corps' study, "Many of the locks were designed to accommodate a fraction of the traffic that currently transits the system...most of the locks on the system are 600 feet long... many of the tows using the river are 1,200 feet long...Tows must lock through in two steps...This process takes at least 1.5 and often over two hours."

Barges and navigation traffic impact fish and wildlife resources and habitats in many ways. These include directly killing fish larvae and eggs, eroding shoreline habitats, filling backwaters with sediments, and reducing productivity by increasing turbidity levels. Expanding lock size from 600 to 1200 feet will reduce lockage times, eliminate bottlenecks, and put more barges on the river, thus increasing navigation and wildlife conflicts.

The current navigation expansion study is made up of a series of expensive basic research projects — examining a range of environmental engineering and economic questions. Reconstruction of the UMR locks may include the three most congested locks, or all 14 locks between the already completed locks at Alton, IL, and Dubuque, IA.

Whatever happens on locks 25 through 11 will "... impact the whole upper river system, there's no doubt about it," said Ron Nargang, deputy commissioner of the Minnesota Department of Natural Resources in St. Paul. Nargang is also a member of the governor's liaison committee made up of Minnesota, Wisconsin Illinois, Iowa and Missouri representatives. Those states insist that the Corps has never adequately studied the environmental impact of its plans.

Despite the passage of more than a decade since completion of the Upper Mississippi River System Master Plan (1981), which outlined the impacts of navigation on fish and wildlife resources and identified the needs for further study, few impact studies have been completed. Environmental interests are recommending that the Corps spend an additional $25 million on environmental research — in addition to the $13 million the Corps already plans to spend. Col. Richard Craig, commander of the Corps North Central Division in Chicago, says he is open to additional study, but he worries about finding the money to fund it.

The Corps is in the second year of the $43 million navigation study — to determine what the river will look like for the next 50 years. Shipping interests very much want to see vast expenditures made. But many in the public are skeptical, even hostile. In fact, some feel that environmental studies have been blocked by navigation supporters - for fear that documenting the actual magnitude of impact on fish and wildlife resources would raise serious concerns about navigation.

Source: La Crosse Tribune, December 4, 1994

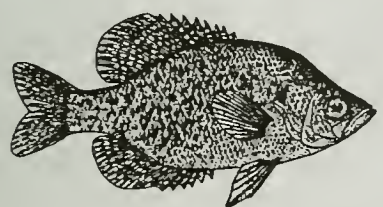
Fish Response to Lower Illinois River Flooding

Life history strategies of large river floodplain plants and animals have evolved around a predictable, seasonal cycle of flooding and drying. Floodplain fishes migrate to inundated terrestrial habitats to feed, spawn, and seek refuge from main channel currents. Channelization, impoundment for navigation, and floodplain constriction through levee construction have disrupted these annual hydrologic cycles.

Extreme and extended flooding during spring and summer 1993 offered a

rare opportunity to observe the migration of riverine fishes into flooded terrestrial habitats. Fish communities were sampled at three separate areas of the lower Illinois River floodplain. Each area contained four separate habitat types: (1) a floodplain depression lake adjacent to the main channel, (2) a forested area around the lake, (3) an open area outside the forested area which was primarily agricultural, and (4) the shoreline. A combination of gears was used to sample the fish community in each habitat type. Trammel nets, experimental gill nets, and large- and small-diameter hoop nets were used in all habitats. Shoreline and forested habitats were also sampled with an AC electrofishing boat and Wisconsin style fyke nets. Young-of-the-year fishes were collected in shoreline habitats with mini fyke nets and seines.

A total of 52 species was collected in the three study areas. Fish density and species richness were highest in shoreline habitats. Catch rates were highest in the shoreline habitats for bluegill (*Lepomis macrochirus*), followed by gizzard shad (*Dorosoma cepedianum*), black crappie (*Pomoxis nigromaculatus*), golden shiner (*Notemigonus crysoleucas*), and largemouth bass (*Micropterus salmoides*). Common carp (*Cyprinus carpio*) was the most abundant species in all other habitats. Channel catfish (*Ictalurus punctatus*) catch rates were highest in the forested areas.



black crappie

The duration of the flood allowed nest-building sunfishes enough time to successfully spawn. This was reflected in high catches of young-of-the-year largemouth bass and bluegill. Whether or not the young fish spawned during the summer flooding are recruited into the breeding population remains to be seen.

Contact: Cronin, F. A., and R. J. Maher. LTRM-Pool 26, P.O. Box 368, West Alton, MO 63386

Hexagenia Response to Upper Mississippi River (UMR) Flooding

Burrowing mayflies of the genus *Hexagenia* (family *Ephemerida*e) apparently capitalized on conditions provided by the 1993 flood in UMR backwater lakes.

hexagenia mayfly

It is hypothesize that 1993 flood waters precluded establishment of summer anoxic conditions which normally occur in the bottoms of McGregor and Lawrence lakes (as well as in other UMR backwater lakes). Consequently, the massive elimination of *Hexagenia* nymphs by anoxia which normally occurs did not take place, and unprecedented numbers of nymphs continued to develop.

Sampling was conducted over 3 years (July 1991, July 1992, and September 1993) from three dissimilar lakes in UMR Pools 8 and 10. Thumb Lake, a small, shallow lake, supported Hexagenia nymphs on each sampling occasion. McGregor Lake, a large, fairly deep lake produced a few nymphs in a few of the samples taken in 1991 and no nymphs among the 20 samples taken in 1992. In contrast, sampling in 1993 showed large numbers of nymphs. Mean density of nymphs was 904 Hexagenia/m^2 at the near-shore sampling sites, with mayfly nymphs present in all the samples. Similarly, Lawrence Lake, a large, shallow, heavily vegetated lake in Pool 8 did not yield any Hexagenia in 1992; yet nymphs were abundant in the 1993 samples.

Contact: D.C. Beckett, B. L. Green, A. C. Miller, or R. F. Gaugush, EMTC, 575 Lester Drive, Onalaska, WI 54650

Tree Mortality Due to Flooding

A survey of Upper Mississippi River (UMR) floodplain forests following the 1993 floods revealed that tree mortality varied greatly among species and size class, but that overall mortality was highly correlated to flood duration and amplitude. Mature trees in the northernmost reach of the UMR study (Pool 4) showed the lowest percent mortality (1.1%). As the degree of UMR flooding increased downstream, so did the degree of tree mortality. The forests of Pool 26, near St. Louis, MO, were the most severely impacted (37.2%). Further downstream, near Cape Girardeau, MO, the percent mortality of mature trees was similar (32.2%).

Sapling mortality was much higher than that of mature trees, and also increased downstream. In Pool 4, percent mortality of saplings was only 1.8%, but in Pool 26 and near Cape Girardeau, percent mortality of saplings increased to 80.0% and 77.2%, respectively.

Mortality varied among tree species in each river reach. Species most severely impacted by the flood were hackberry (*Celtis occidentalis*), Kentucky coffee tree (*Gymnocladus dioica*), white mulberry (*Morus alba*), river birch (*Betula nigra*), pin oak (*Quercus palustris*), eastern cottonwood (*Populus deltoides*), silver maple (*Acer saccharinum*), boxelder (*Acer negundo*), sycamore (*Platanus occidentalis*), and American elm (*Ulmus americana*). In Pool 26, 96.2% of mature trees and 99.4% of hackberry saplings were killed. Tree size class was an important factor related to flood mortality. Larger diameter trees showed better survival rates.

Vigorous regeneration of first year silver maple and boxelder seedlings was observed in each UMR study reach after the flood. In Pools 17, 22, 26, and the open river reach, patches

of first year seedlings of three pioneer tree species; black willow (*Salix nigra*), eastern cottonwood, and sycamore; were frequently encountered in areas where understory and overstory vegetation was severely impacted by the flood.

Extreme and infrequent flood events, may be important natural mechanisms for recruitment of early successional pioneer tree species.

Contact: Yao Yin, John C. Nelson, and Kenneth S. Lubinski, EMTC, 575 Lester Drive, Onalaska, WI 54650

Ohio Shrimp Found in the Upper Mississippi

Four species of *Macrobrachium* (large river shrimp) occur in the freshwaters of the United States, where *Macrobrachium ohione* is endemic. The Ohio shrimp is found in large rivers along the eastern seaboard from Virginia to Florida, on the Gulf Coast from Alabama to Texas, and in the Mississippi and Ohio River systems from Oklahoma to Ohio. It is the only species of *Macrobrachium* found in the Mississippi River.

M. ohione was common in the open (unimpounded) Mississippi River between St. Louis and New Orleans until the 1930's, and according to a 1985 Illinois Natural History Survey Bulletin, the species was "frequently eaten" by the residents of Cairo, Illinois. Females are rather large, growing to 100 mm, while average is about 60 mm. Commercial fisheries existed as far north as Chester, Illinois, where the shrimp was harvested primarily as bait for sport fishing.

Long-time residents of southeastern Missouri recalled catching large numbers of this species in the 1930's, but by the 1940's they were rare. The last known collection of M. ohione from the Upper Mississippi River was in 1962 near Cairo, Illinois.

In June 1991, biologists from the Environmental Management Program, Long Term Resource Monitoring Program (LTRMP) Field Station at Cape Girardeau, Missouri (Open River Field Station), began collecting shrimp from the Mississippi River as part of a long-term biological monitoring program. LTRMP biologists have collected specimens with mini fyke nets from wingdams and from side channels by electrofishing.

It is not clear why *M. ohione* declined rapidly in the open Mississippi River during the 1930's and 1940's, but it does seem to correspond to the accelerated loss of riverine habitats of that time due to channelization, levee construction, and drainage of sloughs. In the lower Mississippi River, which underwent similar habitat modifications, the Ohio shrimp catch declined from 900,000 kg/yr in the 1930's to 1,500 kg/yr in the early 1970's. However, no qualitative change has occurred in the shrimp population near Port Allen, Louisiana, since the 1930's.

Habitat requirements for Mississippi River populations of *M. ohione* are not well described. Based on LTRMP observations, *M. ohione* seem to prefer quiet water. Interestingly, six of the seven Ohio shrimp collected by LTRMP biologists were from wingdam habitats. Quiet water is found along the downstream side of wingdams and perhaps crevices in the riprap provide suitable refuge and feeding habitat. Higher numbers of large shrimp (presumably *M. ohione*) have been observed by staff members electrofishing at night, suggesting that feeding occurs in shallow water after sunset.

Contact: Lesly K. Conaway and Robert A. Hrabik, Missouri Dept. of Conservation, 2302 County Park Drive, Cape Girardeau, MO 63701

Illinois and Mississippi Rivers Zebra Mussel Update

Zebra mussel populations in the lower Illinois River exploded in 1993, achieving maximum densities of nearly 100,000/m^2; since then, populations have experienced high mortality, resulting in greater than 99% reduction at some sites. This crash is being attributed to poor environmental conditions resulting from overpopulation and fluctuations in water quality.

zebra mussel

During summer 1993, divers collected quantitative samples at five sites along the lower 181 miles of the Illinois River. Zebra mussel densities increased in a downriver direction, ranging from less than 1/m^2 at river mile (RM) 181 to 61,126/m^2 at RM 5.5. Downriver populations consisted almost entirely (> 99 %) of a single cohort which settled in the spring or early summer of 1993, while upriver populations consisted of both > 1-yr-old (39%) and newly settled (61%) cohorts. These dense populations of zebra mussels covered nearly all available hard surfaces (i.e. rocks, native mussels, glass bottles, tin cans, organic debris, etc.) and carpeted expansive areas of soft mud. Mortality was most severe at lower river sites which had the densest zebra mussel populations in 1993. This downward trend in average densities has continued through the 1994 sampling season, resulting in greater than 99% reduction at both RM 5.5 and RM 66.8. Most length frequency histograms indicate at least three recruitment events in 1993; no significant recruitment occurred at any sample sites during 1994.

Both mortality and poor recruitment may be attributed to stressful environmental conditions [i.e. low dissolved oxygen levels (1.7-3.0 ppm in the main channel)] which were first observed in late summer 1993 and became more severe in summer 1994. Extended periods of low D.O. created stressful conditions which may have caused mortality among zebra mussels, native unionid mussels, and several species of fish including gar, catfish, buffalo, and carp, which were floating dead in large numbers during July 1994. Initial calculations indicate

that under low water conditions, dense Illinois River zebra mussel populations (61,000/m^2) could consume 2.4 ppm of D.O. in a one-mile stretch of the main channel.

During summer 1994, the Illinois River dropped to extremely low levels, water temperatures in the main channel remained above 28°C for four to six weeks, and dissolved oxygen was consistently recorded below 3 ppm (low of 1.7 ppm) at main channel sites throughout July and August.

Since the discovery of the first Illinois River zebra mussel in June 1991, numbers of native unionids colonized by zebra mussels have increased steadily. By summer 1993, zebra mussel densities and infestation of native unionids had reached their highest levels. Since this peak, densities, infestation rates, and degree of infestation (number of zebra mussels per unionid) have declined at the majority of sites. However, the numbers of recently dead native unionids have continued to increase.

Unionid mortality was greatest in the lower Illinois River where the highest zebra mussel densities were reported in 1993. There is a significant positive correlation (r^2=0.9689) between June 1994 native mussel mortality and 1993 zebra mussel densities at the five Illinois River sites. Infested mussels were probably unable to obtain adequate food during the 1993 growing season and subsequently died over winter because they lacked sufficient energy reserves. Further native mussel mortality observed in fall 1994 may have been the result of the stressful environmental conditions persisting during summer 1994. The majority of mussels identified as recently dead were either severely infested or covered with "byssal tufts" indicating previous heavy zebra mussel infestations. Interspecific differences in mortality were evident among native species commonly collected at all sites. *Truncill truncata* (Deertoe) and *Leptodea fragilis* (Fragile papershell) suffered higher mortalities than *Amblema plicata* (Three ridge) and *Quadrula quadrula* (Mapleleaf).

This differential mortality may be due to distinct traits (i.e. burrowing behavior, shell morphology, etc.) which influence susceptibility to zebra mussel infestation. However, even the most resistant native species were suffering increased mortality. Infestation of native mussels dropped dramatically at most sites following the zebra mussel crash. At RM 5.5, average numbers of zebra mussels per unionid dropped from 254.5 in August 1993 to 3.9 in October 1994. This decline may offer native mussels a much needed reprieve, allowing them to resupply depleted energy reserves. However, continued presence of zebra mussels and the probability for additional explosions will continue to threaten native Illinois River mussel resources.

In riverine systems, dense populations of zebra mussels (> 1000/m^2) result from settlement of larvae produced by upstream populations. Given the man-made connection of the Illinois River with Lake Michigan and existing adult populations throughout the river, we expect zebra mussel numbers in the Illinois River will fluctuate dramatically over the next few years, with populations building under favorable conditions and then crashing when they reach levels which create stressful conditions.

Upper Mississippi River (UMR) zebra mussel populations are just now approaching the exponential phase. The first confirmed zebra mussel collection in the UMR, above its confluence with the Illinois, was at La Crosse, WI on 12 September 1991.

Sampling at three sites in Pool 15 (Rock Island, IL) during July 1994 revealed average densities of 1.5/m^2 at one site; 59% were between 8 and 10 mm long with the remainder greater than 17 mm. In August, densities had increased to 35.7/m^2, with 71% of the population being less than 15 mm long. By December, three cohorts were apparent in length frequency distributions, indicating that at least two settlements occurred during 1994. It is apparent that a substantial adult population has been established and the stage is set for a population explosion in 1995.

U.S. Army Corps of Engineers employees working on a repair project at Lock and Dam No. 7 at Dresbach, WI found 2,000 mussels/m^2 in December, according to public affairs officer Ken Gardner. Last summer divers made estimates much lower than that, he said, based on samples of mussels taken on the concrete walls of the lock. Lock master Terry Jessessky said so far the mussels have not affected operation of the locks or dams. But there were so many zebra mussels on the floor of Lock 7, Jessessky said, that "it was like walking on gravel."

Average densities of native mussels ranged from 50-150/m^2 at the three UMR Pool 15 sites sampled in 1994. From 19 to 24 different species were collected at each site, including two federally listed species (*Lampsilis higginsi* and *Cumberlandia monodonta*). Infestation of native mussels at one site steadily increased from 0% in July to 2% in August to 14% in December. Only a few (1-4) zebra mussels were attached to each individual unionid. However, infestation of unionids and subsequent mortality are likely to increase in the UMR, following the pattern already observed in the Illinois River.

Contact: S.D. Whitney, K.D. Blodgett, and R.E. Sparks Illinois Natural History Survey, LTRMP Field Station, 704 N. Schrader Ave., Havana, IL 62644, A/C (309) 543-6000 or FAX (309) 543-2105

MICRA Mussel Relocation Study

MICRA is sponsoring a project between the Fish and Wildlife Service, the National Biological Service, and the states of Wisconsin and Minnesota to obtain quantitative data on the growth and survival of freshwater mussels following removal from the Upper Mississippi River (UMR) and subsequent relocation into an artificial pond at the Genoa National Fish Hatchery at Genoa, Wisconsin.

The purpose of this removal is to create a refugia at the hatchery to protect native UMR mussels from zebra mussel infestation and possible death. It is hoped that such refugia can be used to maintain a supply of brood stock until after the UMR zebra mussel infestation peaks and then crashes.

Treatments being used for this study include placing mussels in suspended substrate-filled trays, buried substrate-filled trays, hardware cloth cages, and vertically-suspended nylon mesh pockets. All mussels will be physically located in an artesian-well fed pond.

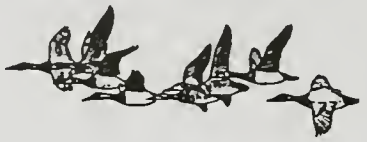
The study is being co-funded by the Mussel Mitigation Trust Fund, and the Shell Exporters Association.

Contact: Michael Davis, Minnesota Department of Natural Resources, Lake City, MN (612-345-3331); Teresa Naimo, National Biological Service, Upper Mississippi Science Center, LaCrosse, WI (608-783-6451); Pamella Thiel, USFWS, LaCrosse Fishery Resources Office, Onalaska, WI (608-783-8431); or Kurt Welke, Wisconsin Department of Natural Resources, Prairie du Chien, WI, (608-326-0233).

Zebra Mussels and Ducks

An article in the Manistee (Michigan) News Advocate (10-31-94) reports that, Dr. Brian Allen, a local birdwatcher and optometrist, thinks that white wing scoters and old squaw ducks (normally found only on the coasts) may have moved into Lake Michigan to feed on zebra mussels. The scoter duck feeds mostly on mollusks, Allen says, but it's not clear whether old squaw ducks also feed on the mussel.

Allen said he counted 35,000 of the sea-going ducks off of Pierport on one winter day. The ducks stay far offshore even on inland lakes like Portage Lake, and don't really compete with native species Allen said. The ducks are attracted to Pierport because it is one of only three spots where the Great Lakes didn't completely ice over this winter, Allen said.



Allen and Tim Granger, a fisheries biologist for the U.S. Fish and Wildlife Service have been studying the situation with the help of Fred LaPoint and Art Krause of the Manistee Search and Rescue dive team. LaPoint and Krause surveyed Lake Michigan's bottom about 40 feet below the area where the ducks were sighted, and found every rock on the bottom covered with zebra mussels, including clusters of the mussel rolling on sandy portions of the lake bottom. Zebra mussels have been in the area for at least four years, and Krause said they are four six inches deep around the two piers at the mouth of the Manistee River channel. They're all over the bottoms of Manistee and Portage Lake, and they completely cover a rock bed used by spawning perch offshore from the Orchard Beach State Park. The impact on the perch is unknown.

Zebra Mussels and Boats

The first zebra mussels to break through barriers put up by state and federal agencies to protect the St. Croix River from invasion have been documented. National Park Service officials inspected a boat being pulled from the water at a Hudson, WI marina and found 35 mussels attached. Divers found no others in the marina.

The boat had been taken to Lake Pepin on the Mississippi River, which has large colonies of the mussel, for three days in June. According to Park Service officials the boat owner boated back to Hudson without stopping to wash off the craft before entering the St. Croix.

The National Park Service has been trying to keep zebra mussels out of the St Croix, which is designated a federal wild and scenic river and is the only known place in the world where the winged maple leaf mussel resides. It and other species could be wiped out by the zebra mussel.

The Park Service has asked boaters who have been in the Mississippi River not to go north of the "Narrows" of the St. Croix, about 5 miles north of Prescott, WI and Hastings, MN, without pulling their boats out of the water and washing them off. No boats that have been in the Mississippi are allowed north of the Arcola sand bar, about halfway between Stillwater and Marine on St. Croix, without being cleaned.

Hudson is in the area in which boaters are asked to clean their boats but are not required to do so. Anthony Andersen, superintendent of the St. Croix National Scenic Riverway, said the incident at Hudson while isolated, shows the threat that recreational boaters pose to the river. Boaters have the right to navigate in public waterways, but those rights also carry a responsibility to protect riverway resources, even if it is inconvenient he said.

Source: (Minneapolis) Star Tribune, Sept. 24, 1995

Alabama Creates Urban Stream Fisheries

Alabama's Department of Conservation is working to make recreational fisheries immediately available to the urban population in Jefferson and Shelby counties, which encompass and border the state's largest city, Birmingham.

Under a new initiative, the state explored the sportfishing potential offered by a network of small streams in these two counties. Studies indicated the waterways contained adequate populations of prey species, but only limited populations of native predator species to support recreational fisheries.

Armed with this information, the department has taken steps to enhance the population structure in a number of the streams by planting 20,000 bluegill and shellcracker. Larger size specimens were planted to ensure spawning next spring and summer, and the local angling community is being asked to release the fish it catches to help protect the spawning stock. Later, catfish and largemouth bass will be planted to further diversify the fish communities and provide added sportfisheries.

The program, will bring local sportfishing opportunities to urban areas, and create a mechanism to "connect" urban residents to the natural streams of the suburban area. This, in turn, will engender a better understanding of the natural world by young Alabama residents. The result will be a better informed public more likely to adopt a personal responsibility for stewardship of natural areas as a lifelong commitment.

Accordingly, local Alabama businesses are exploring the program as a public/private partnership opportunity. The partnership not only provides new sources of healthy, outdoor recreational experiences, but also an opportunity for corporations to express their cultural commitment to stewardship of Alabama's land and waters through the young residents of a major suburban area.

Research conducted by the American Sportfishing Association's Sportfishing Promotion Council indicates that 90% of young people who do not fish by age 14 will never fish.

Source: ASA Bulletin, No. 455, October/November/December 1994

Will Privatization Kill Big Dams?

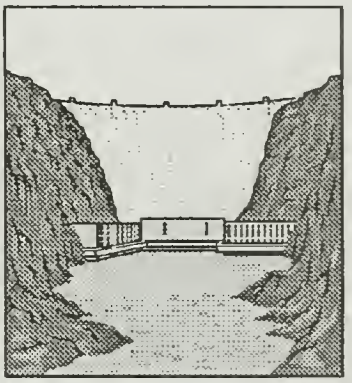
Dam builders who recently attended a conference in Frankfurt, Germany, entitled "Financing Hydro Power Projects '94" heard financiers tell them what they have known all along but have never wanted to admit: that in spite of decades of rhetoric about "cheap hydropower", big dams are expensive, high risk, low return investments that would not be built without huge public subsidies.

Until now it has not mattered much that dams were uneconomic, but in the new world of shrinking government expenditure, and the rapid move toward private sector infrastructure development, economics do matter, and the dam builders are scared. John Besant-Jones, Principal Energy Economist at the World Bank, told the conference that "the traditional large centrally planned, capital-intensive, publicly financed" hydropower schemes are "seen by critics as outmoded in the new era for power markets that is characterized by competition, private participation, decentralized decision making, and commercial attitudes to investment risks for power sectors."

Several speakers at the conference, sponsored by the Journal of International Water Power and Dam Construction, emphasized that private hydrodam investors are faced with high initial construction costs, long capital payback periods, a terrible record of construction time and cost overruns, and high operating risks, especially because of their vulnerability to drought.

It was also clear from the speakers that the dam industry feels greatly constrained by opposition from local people and environmentalists, and that financiers are dissuaded from funding dams because of "environmental risks": delays because of opposition to resettlement and anti-dam campaigns, and new environmental legislation to regulate how dams are built and operated.

Several speakers agreed that, with a few exceptions, the only dams likely to be built on a wholly private sector basis in the near future are small to medium-size run-of-river hydro dams. Compared to storage dams, run-of-river projects displace relatively small numbers of people and flood relatively small amounts of land.



Large multipurpose projects are even less appealing to investors than large hydrodams due to the problems of collecting revenues on non-power functions such as water supply, navigation, recreation and flood control, and the fact that such functions compete with power production, for example, by diverting water from the reservoir or by the need to keep the reservoir low to provide storage capacity for floodwaters

Build Operate Transfer schemes (BOTS) are an increasingly popular form of infrastructure project financing, in which private consortia build a project and run it for a certain period before handing it over to the host government. BOOs and BOOTs, where the extra "O" stands for "Own", are essentially the same concept.

Although there has recently been a lot of hopeful discussion of BOTS in the dam industry press, energy lawyer

Michael Taylor carefully explained to the dam builders in Frankfurt that because of the inherent risks and long payback periods of large dams, BOTS are "generally not suitable for hydro" other than small and mini schemes.

Source: World Rivers Review, Vol. 9, No. 2/3, Second/Third Quarter 1994

The Fate of Toxic Substances in Watersheds

The U.S. Geological Survey's (USGS) Toxic Substances Hydrology (Toxics) Program recently conducted two studies in the Mississippi River Basin. These projects studied the occurrence, movement, and fate of agricultural chemicals in the

Mississippi River Watershed and of metals in a small mountain watershed in Colorado.

In 1991, an estimated 100,000 metric tons of pesticides and 6.3 million metric tons of nitrogen fertilizer were applied on cropland in the Mississippi River Watershed. A series of regional reconnaissance studies were conducted to determine the temporal and spatial patterns of occurrence of nitrate and selected herbicides in surface water and reservoirs.

A regional reconnaissance of 147 Mississippi River watershed streams was conducted from 1989 to 1990. Water samples were collected from the streams to determine the concentrations of nitrates and selected herbicides before and after spring applications of agricultural chemicals. The data resulted in a series of "snapshots' that demonstrated a spring "flush" of herbicides from agricultural fields into the watershed's streams.

This was followed by an intensive temporal sampling of 9 stream's selected from the original 147 and a series of temporal samplings of the main stem of the Mississippi River and its major tributaries. These subsequent samplings demonstrated that the spring flush of herbicides from agricultural fields is observable across a range of spatial scales throughout the watershed, from small streams to the entire Mississippi Watershed.

The Reservoir Reconnaissance was designed to determine occurrence, temporal distribution, and persistence of selected herbicides and herbicide metabolites in the outflow from 76 Mississippi River Watershed reservoirs. Preliminary results show that concentrations of herbicides in reservoirs remained relatively high throughout the year in contrast to streams, which have high concentrations only in the spring. However, the concentrations in reservoirs are not as high as the concentrations in streams during the spring flush. The higher reservoir concentrations throughout the year are caused when reservoirs are filled during the spring flush of herbicides and water from the flush is stored in the reservoir.

USGS researchers have also been investigating the transport of metals in St. Kevin Gulch-a small mountain watershed in the Upper Arkansas River Basin. St. Kevin Gulch is affected by acid mine drainage from abandoned silver and zinc mines in the Leadville, Colorado area. The chemistry and cycling of colloidal aggregates of iron oxyhydroxides and iron oxyhydroxysulfates have been shown to control the transport of arsenic, copper, lead, and zinc in the stream by sorption.

In addition, photoreduction by sunlight exerts a control on the transport of metals in the stream. Photoreduction of the ferric iron in colloids to ferrous iron can release metal ions to the stream. These instream transformation processes have been studied by tracer-dilution experiments, which have defined the hydrologic transport processes, and allowed for identification of the controlling chemical processes.

Studies of St. Kevin Gulch have provided valuable insight into the mechanisms of metal transport and transformation in streams contaminated by mine drainage.

For more information on the Mississippi Watershed Streams Study contact Donald Goolsby, USGS, Box 25046, Denver Federal Center, MS 406, Denver, CO 80225-0046, (303) 236-5950 extension 209.

For more information on the acid mine drainage study contact Briant Kimball, USGS, 1745 West 1700 South, Room 1016 Administrative Building, Salt Lake City, UT 84104, (801) 9753384.

Source: Watershed Events, Fall 1994

New Publications

Rehabilitating Damaged Ecosystems, 2nd Edition: Edited by John Cairns, Jr., the new edition features 3 new chapters and 5 major revisions. Available from Lewis Publishers, 2000 Corporate Blvd., N.W., Boca Raton, FL 33431-9868, Price is $79.95.

Implementing Integrated Environmental Management: Edited by John Cairns, Jr., Todd V. Crawford, and Hal Salwasser, this book focuses on integrating fragmented management responsibilities of various organizations to better manage entire landscapes. Available from UCE&HMS, Attn: Barbara Falls, 1020 Derring Hall (Mail Stop 0415), VPI & State University, Blacksburg, VA 24061. Price is $10.00.

February 23-24, Water, Nitrogen, and People: An International Conference, Everett, WA. Contact Craig MacConnell, Washington State University Extension, Whatcom County,1000 North Forest St., Suite 201, Bellingham, WA 98225-5594, (206) 676-6736. Focuses on sustainability of the water resources and understanding the effect of nitrogen on water.

February 28-March 3, International Erosion Control Association's 26th Annual Conference and Trade Exposition, Atlanta, GA. Contact: John T. Price, IECA Program Chair, Price & Company, Inc.,425 36th Street, SW, Wyoming, MI 49548, (616) 530-8230. FAX: 530-2317. Topics include policy and management practices, methods and techniques, case histories, research and development, product introduction, and special topics.

March 15-17: "Upper Mississippi River Conservation Committee", Dubuque, IA. Contact: Tom Boland, Iowa Dept. of Natural Resources, RR 3, Box 1, Box 1, Bellevue, IA 52301.

March 23-24: "Ozark Cavefish Conference", Springfield Conservation Nature Center, Springfield, MO. Contact: Brian Canaday Missouri Department of Conservation, 2630 North Mayfair, Springfield, MO 65803.

March 24-29: "60th North American Wildlife and Natural Resources Conference", Minneapolis Hilton and Towers, Minneapolis, MN. Contact: Richard McCabe, Program Coordinator, Wildlife Management Institute, 1101 14th Street, N.W., Suite 801, Washington, D.C. 20005, (202) 371-1808.

April 3-7: "National Wetlands Workshop", Clarion Hotel, New Orleans, LA. Contact U.S. Army Engineer Waterways Experiment Station, Wetlands Research & Technology Center, Attn: CEWES-EP-W, 3909 Halls Ferry Road, Vicksburg, MS 39180-6199, (601) 634-2569/4217; FAX (601) 634-3664.

May 4-6: "Mississippi River Basin Conference, Memphis, TN. Contact: Suzi Wilkins, Mississippi River Basin Alliance, Box 3878, St. Louis, MO 63122 (314) 822-4114.

May 14-18, Water Resources at Risk - 1995 Annual Meeting of the American Institute of Hydrology, Denver,CO. Contact James R. Kunkel, Advanced Sciences, Inc.,405 Urban Street, Suite 401, Lakewood, CO 80228. (303) 980-0036. FAX: (303) 980-1206. Purpose: describe issues, management strategies, and technologies in hydrology, hydrogeology, and mining hydrology.

May 15-17: "International River Basin Management for Sustainable Development", Kruger National Park, South Africa. Contact: Alan Vicory, Jr., International Program Committee, Ohio River Valley Water Sanitation Commission, 5735 Kellog Avenue, Cincinnati, OH 45228, (513) 231-7719

May 21-24: "Fourth National Watershed Conference", Charleston Civic Center, Charleston, WV. The conference will take a comprehensive look at (1) Flood prevention while protecting natural resources, (2) On-farm and watershed-wide water quality protection, (3) Nonstructural flood control measures, and (4) Riparian corridor management and restoration. Contact: National Watershed Coalition, 9150 W. Jewell Ave., Suite 102, Lakewood, CO 80232, (303) 988-1810

May 31-June 2: "East Coast Trout Management and Culture Workshop II", Penn State University, State College, PA. Contact Marty Marcinko, 450 Robinson Lane, Pennsylvania Fish Commission, Bellefonte, PA 16823, (814) 359-5223. Theme of the workshop is "Looking to the Future: How Can We Meet the Need?", Co-sponsored by the American Fisheries Society's Northeastern Division and Southern Division's Trout Committee, Duke Power Co., National Park Service, Pennsylvania Fish Commission, and Tennessee Valley Authority.

June 5-9: "Sustainable Forests: Integrating the Experience International Conference", Sault Ste. Marie, MI, and Sault Ste. Marie, Ont. Contact Joan Jaffit, Conference Manager; (705) 759-2554; FAX (705) 256-6156.

June 12-14, 1995: "Third Reservoir Fisheries Symposium", Chattanooga Marriott at the Convention Center, Chattanooga, TN. Contact Steve Miranda, Chair, Third Reservoir Fisheries Symposium, Mississippi Cooperative Fish and Wildlife Research Unit, P.O. Drawer BX, Mississippi State, MS 39762; FAX (601) 325-8726.

July 16-19, Interdisciplinary Conference on Animal Waste and the Land-Water Interface, Fayetteville, AR. Contact Patti Snodgrass, Arkansas Water Resource Center, 113 Ozark Hall University of Arkansas, Fayetteville, AR 72701. (501) 575-4403. FAX: (501) 575-3846. The purpose of the conference is to provide a forum for interdisciplinary, holistic discussion of animal waste, soil and water interactions.

September 28-30, Watersheds '94 Expo. Bellevue, Washington. Contact Andrea Lindsay, U.S. Environmental Protection Agency WD-125, 1200 Sixth Ave., Seattle, WA 98101; (800) 424-4EPA.

October 16-18, "The Conservation and Management of Freshwater Mussels II: Initiatives for the Future", Embassy Suites Hotel, St. Louis, MO. Contact: Alan Buchanan, Missouri Department of Conservation, (314) 882-9880

Agriculture.

H.R. 67 (Bereuter, R/NE) extends the conservation reserve program for 10 years and the wetlands reserve program for 5 years to protect valuable soil and water resources through long-term conservation easements.

Appropriations.

The House Interior appropriations panel took testimony January 11 from the Heritage Foundation, CATO Institute and other groups on the subject of budget rescissions for the department.

Fish & Wildlife.

S. 191 (Hutchison, R/TX) and H.R. 490 (Smith, R/TX) amends the Endangered Species Act to ensure that private property rights are not infringed until adequate protection is afforded by reauthorization of the act by imposing a moratorium on new listings and critical habitat designations.

Government Affairs.

On Jan. 10, House Government Reform Committee approved **H.R. 5**, which is aimed at curbing unfunded mandates. On Jan. 9, the Senate Budget and Government Affairs committees approved **S. 1**, aimed at curbing unfunded federal mandates.

S. 1 (Kempthorne, R/ID) and **H.R. 5 (Clinger, R/PA)** a bill to curb the practice of imposing unfunded federal mandates on states and local governments.

S. 169 (Grassley, R/IA) curbs the practice of imposing unfunded federal mandates on states and local governments.

HJ. Res. 27 (Franks, R/NJ) proposes a Constitutional amendment barring federal unfunded mandates to the states.

Parks.

H.R. 260 (Hefley, R/CO) provides for the development of a plan and management review of the National Park System, and reforms the process for considering for addition to the system.

Public Lands.

S. 93 (Hatfield, R/OR) a bill to amend the Federal Land Policy and Management Act to provide for ecosystem management on public lands.

H.R. 91 (Sensenbrenner, R/WI) prohibits the acquisition of land or waters for the National Wildlife Refuge System if wildlife refuge revenue sharing payments have not been made for the preceding year.

H. Res. 25 (Orton, D/UT) a resolution requesting that the Interior Secretary withdraw proposed regulations concerning right of way granted under section 2477 of the revised statutes.

S. 193 (Campbell, D/CO) establishes a forage fee formula on lands under the jurisdiction of the Agriculture and Interior departments.

Recreation.

H.R. 104 (Emerson, R/MO) rescinds the fee required for the use of public recreation areas at lakes and reservoirs under the jurisdiction of the Army Corps of Engineers.

Takings.

S. 135 (Hatch, R/UT) a bill to establish a uniform federal process for protecting private property rights.

S. 145 (Gramm, R/TX) a bill to provide for the protection of private property rights.

H.R. 9 (Archer, R/TX) a bill to create jobs, enhance wages, strengthen private property rights and reduce the power of the federal government.

Water and Wetlands.

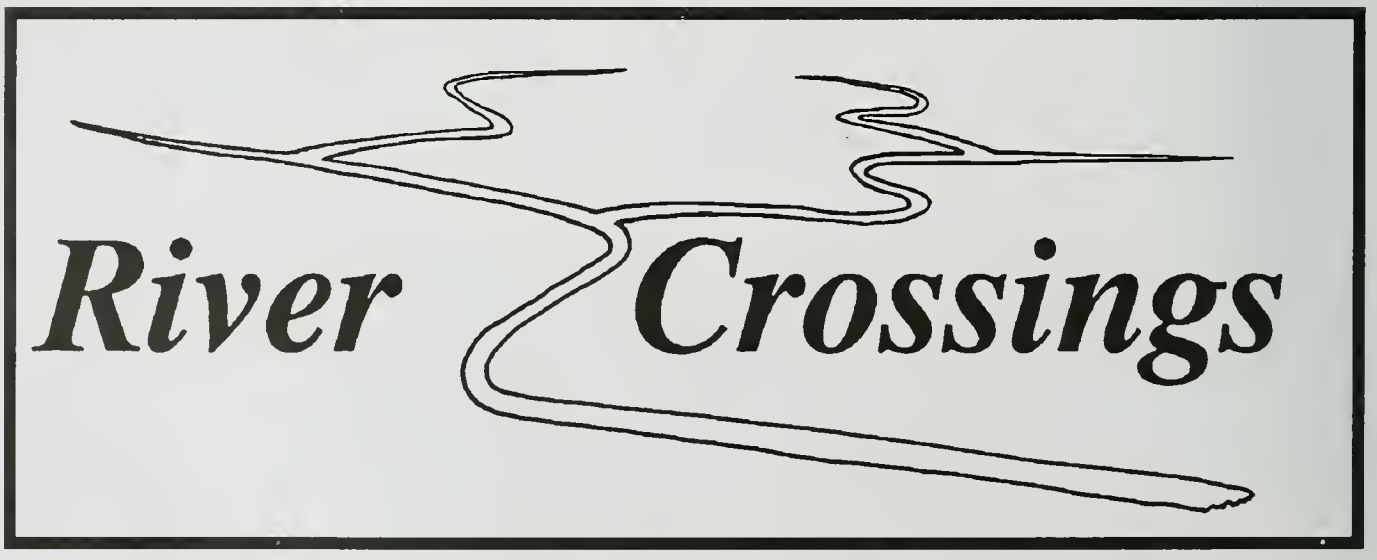
S. 49 (Stevens, R/AK) a bill to amend the Clean Water Act to provide for exemptions to wetlands regulations and the protection of property rights in Alaska.

H.R. 226 (Dingell, D/MI) amends the Safe Drinking Water Act to assure the safety of public water systems.

H.R. 198 (Smith, R/MI) amends the Food Security Act of 1985 to permit the conversion of wetlands that are l acre or less in size.

Source: Land Letter, STATUS REPORT, January 15,1995, Vol. 14, No. 2

Mississippi Interstate Cooperative Resource Association
608 East Cherry
Columbia, MO 65201



River Crossings

Volume 4 March/April 1995 Number 2

Fifth Annual MICRA Meeting

MICRA will hold its fifth Annual Meeting at the Eppley Airport Ramada Inn in Omaha, NE on May 22-23. As in the past, our Annual Meeting will be held in conjunction with the American Fisheries Society (AFS) Fisheries Administrator's Meeting.

Anticipated agenda items include: (1) Paddlefish Tagging Project, (2) Sicklefin/Sturgeon/Flathead Chub Survey, (3) Mussel Relocation Project, (4) Missouri River Navigation Economics Study Proposal Development, (5) New Funding Opportunities, (6) Exotic Species Subcommittee Activity, (7) MICRA Constitution and Bylaws, (8) Election of New Officers.

The meeting will begin a 1 P.M. on the 22nd and end at Noon on the 23rd.

MICRA Paddlefish Survey

Final approval was received from the U.S. Fish and Wildlife Service in late March for initiation of the MICRA paddlefish survey. This approval gave biologists from 17 states, across the Basin, the nod to begin tagging both adult and hatchery reared paddlefish. The MICRA survey is intended to be a multi-year effort to complete a basinwide assessment of paddlefish stock, distribution, movement, harvest and exploitation.

The assessment is needed for the states to develop better data on which to establish improved regulations for paddlefish conservation and management. Currently the species is threatened in parts of its range, while in other areas it supports both commercial and sport fisheries. And there is concern that the recovery efforts of one state may be contributing to another state's harvest.

BOR River Partnership Study

The U.S. Bureau of Reclamation (BOR), Montana Area Office, is seeking Federal and non-Federal cost

INSIDE THIS ISSUE

share partners to develop a decision support system (DSS) to be applied to the upper Missouri and lower Yellowstone Rivers in Montana and North Dakota. A series of resource based indices is proposed as a management tool to predict affects of various operational scenarios from Reclamation reservoirs on key resource communities. The relatively free flowing Yellowstone, and to a lesser degree the upper Missouri, may provide reaches where the hydrology, channel morphology, habitat types and aquatic biota are not altered greatly from historic conditions. It is postulated that if these areas can be adequately characterized, the diversity of the aquatic communities found there will reflect the influence of a more natural ecosystem.

Ultimately, the DSS will consider the affect of modified operations to water dependent resources such as listed species like the pallid sturgeon, least tern and piping plover as well as riparian vegetation, agriculture and recreation to allow river managers to understand as clearly as possible resource trade-offs as a function of operations. This Reclamation program is contingent upon the Federal investment receiving matching non-Federal monies or in-kind services. Any private group or non-Federal governmental entity interested in learning more about this proposal and sharing of resources should contact Tom Parks, at the BOR Montana Area Office in Billings at (406) 247-7314.

Missouri River Plan "Unsatisfactory"

US EPA comments submitted on the Army Corps of Engineers' proposed plan for managing the Missouri River say the plan is "environmentally unsatisfactory" because it "fails to look at alternatives that would help restore threatened and endangered fish and birds,". The EPA wants the Corps to study more enviro-friendly uses for the river and to temporarily control water flow to "better protect" fish and wildlife. The EPA says further that the plan "will continue to contribute to the degradation of nationally significant natural resources, as well as likely jeopardize the continued existence of three federally listed endangered species – the interior least tern, piping plover and pallid sturgeon."

EPA officials said that if the Corps fails to address their concerns, they might refer the issue to the White House Council on Environmental Quality. Paul Johnston, spokesman for the Corps' Omaha office, said that while his agency will "pay heed" to EPA's concerns, "they don't have a lot of extra weight." He said his agency would probably spend the next year "deciding how to proceed".

In the meantime Sen. Max Baucus, D/MT, wants to phase out commercial navigation on the Missouri River over the next nine years and require the Army Corps of Engineers to find ways to stop erosion along the river's banks. A coalition of environmental groups that includes American Rivers is also urging an end to navigation on the Missouri. Barge traffic has never reached expected levels, they said, and has been declining since 1977.

But Sen. Christopher S. Bond, R/MO, said he and other downstream legislators "don't plan to let that idea go very far." "We have a bipartisan coalition of senators from the Missouri, Mississippi and Ohio rivers states who understand river transportation is the most environmentally friendly form and that it is vitally important not only to agriculture but to many other businesses," Bond said.

Baucus said Wednesday: "We in the upstream states have sacrificed so much in giving up prime river bottomland. It's time the Corps kept the old promise that the river be

River Crossings

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River Crossings is a mechanism for communication, information transfer, and coordination between agencies, groups and persons responsible for and/or interested in preserving and protecting the aquatic resources of the Mississippi River Drainage Basin through improved communication and management. Information provided by the newsletter, or opinions expressed in it by contributing authors are provided in the spirit of "open communication", and do not necessarily reflect the position of MICRA or any of its member States or Entities. Any comments related to "River Crossings" should be directed to the MICRA Chairman.

managed for everybody."

Bond said in remarks prepared for a hearing on the Endangered Species Act (ESA) that the ESA is "No. 1 on the top 10 list of regulatory problems faced by Americans." Bond compared the pallid sturgeon to the spotted owl as an example of federal regulation gone astray. "In an experiment to improve the 'breeding habitat' or 'sex life' of the pallid sturgeon, the federal government proposes that we increase spring flooding on the banks of the Missouri River and reduce flows from upstream reservoirs during October and November." Bond said the reduced flows would destroy farmers' ability to deliver grain to markets in a cost-effective manner.

Ken Midkiff, program director for the Ozark Chapter of the Sierra Club however, complained that Bond is whipping on the pallid sturgeon as he defends a dying barge industry. Bond "is telling the same old horror stories, but he is refusing to be swayed by any facts," Midkiff said. "Navigation has declined. He is talking about an industry that is dying on its own without any help from the Army Corps of Engineers."

Sources: Greenwire, Vol. 4, No. 207 and 210, St. Louis Post-Dispatch 3-9-95, and Columbia Tribune 3-8-95

Babbitt Lists Principles for ESA Rewrite

Interior Secretary Bruce Babbitt has proposed a set of 10 principles for "minimizing the impact of the Endangered Species Act on small landowners and others." Babbitt said the plan, which will not be submitted as a formal bill, should "guide Congress" as it rewrites the law.

"Under the plan, most activities on single household tracts of land, or those affecting five acres or less, would be permitted to continue free of restrictions under the act if the land in question harbors threatened species." The exemption would not apply if the land contains endangered species.

Babbitt also called for giving more power to state governments in enforcing the law, and said future decisions to list species would have to be supported by independent scientific peer reviews. Although the reforms "would leave intact most essential elements of the law," they "would constitute the most significant changes since the act was adopted" in 1973.

The ESA is facing its "most severe threat in years," as the House has already passed bills that would impose a two-year freeze on listing any more species and would make the government compensate landowners if their property is devalued as a result of the law. Babbitt said that the "takings" bill would simply "gut" the act and suggested that critics of ESA "chose an 'abstract regulatory debate' because they knew it would have a 'heck of a fight' if they addressed it head on". "If Congress chooses to reauthorize the act, they should attack the act's problems like a laser beam ... A heavy-handed approach to change ... will only diminish our ability to protect species", he said.

Babbitt has also announced a new program that encourages property owners to create habitat for endangered species without fear of land-use restrictions if they later decide to develop the land. Dubbed "Safe Harbors," Babbitt said the program will "help defuse widespread concerns" that landowners will be penalized under the Endangered Species Act "if they practice good stewardship".

The plan will be used first by the "exclusive" Pinehurst Resort and Country Club in North Carolina's Sandhills, which is home to the endangered red-cockaded woodpecker. Under the plan, landowners will sign deals with the US Fish and Wildlife Service (USFWS) to make habitat improvements such as clearing hardwood undergrowth trees that discourage the woodpeckers.

As long as the landowners carry through with the agreements, the Interior Department will "not press enforcement actions" if the habitat is disturbed in the future. But owners cannot develop land during nesting season, and they must give USFWS advance notice so it can try to relocate the birds. Interior officials and enviros said the woodpecker plan could "serve as a model" for efforts to help other species.

The Endangered Species Coalition, an alliance of 188 enviro, scientific and civic groups, has initiated a Medicine Bottle Campaign. They are urging Americans to send empty medicine vials to President Clinton or members of Congress to "underscore the importance of plant products and other wild sources to the nation's pharmaceutical offerings".

Source: Greenwire, Vol. 4, No. 205 and 208.

Takings and Compensation

A landmark bill that would substantially broaden the Constitution's prohibition on the seizing of private property without compensation passed the House of Representatives on March 3 by a wide margin despite strong opposition from the Clinton administration and environmental groups. Aimed primarily at endangered species and wetlands regulations, H.R. 925 would require that the federal government pay landowners for any diminution of property values suffered as a result of the implementation of those laws.

Reaction to the bill, which faces uncertain prospects in the Senate and an almost certain Clinton veto, was

swift and strident. "The House today told America it wants to wipe out a quarter century of bi-partisan efforts to protect the environment," said Richard Hoppe of the Wilderness Society. "It has in effect declared war on the nation' s wetlands, waterways, wildlife, national forests, and rangelands."

Administration officials were equally firm in their opposition. "The mandatory compensation proposal being considered today is nothing but a thinly disguised attack on America's great natural resources," said Interior Secretary Bruce Babbitt. "It will force us back to the days when the peregrine falcon was disappearing from the landscape, when fresh water fisheries were in a state of collapse, when the Cuyahoga River was on fire."

Proponents of the measure argue that the cost of environmental regulations falls disproportionately on a few landowners, who are then forced to bear what should be the public's burden. The bill overturns Supreme Court jurisprudence by enacting a statutory interpretation of the Fifth Amendment, which requires that the government pay "just compensation" whenever it takes private property for public use. Currently, the courts decide takings cases on a case-by-case basis and rarely award damages unless the owner has lost all economic uses of the property.

"Proponents of these measures basically seek to give property owners unrestricted rights to do as they wish with their property, regardless of the consequences on others in the surrounding community - a privilege American property owners have never had," Babbitt said. "Thus, with one measure and with little debate, the Congress will cancel out two centuries of American law and tradition."

If H.R. 925 is enacted, the federal government could be liable for billions of dollars in claims unless it sharply curtails regulations designed to protect the environment. A preliminary Congressional Budget Office assessment characterized the price tag as "significant" and, in a letter to Rep. John Porter (R/PA), Babbitt warned that the Interior Department's potential liability could exceed the department's entire $7.6 billion annual budget.

Environmentalists warned the bill could lead to an epidemic of litigation and amounted to a "full-employment act" for lawyers. "The bill will create a huge new entitlement program for land speculators, timber companies, corporate grazers and well-funded water interests," Hoppe said. "It will cost the American taxpayers billions in pay-offs."

Some lawmakers believe the bill will cost very little as agencies will be reluctant to propose regulations that might trigger a payout to landowners.

The measure as introduced in H.R. 9, part of the GOP Contract with America, applied to all federal actions, including health and safety regulations, but by a 301-128 vote, the House narrowed its scope to focus on the politically-charged laws protecting endangered species and wetlands. Offered by Rep. Billy Tauzin (D/LA), the amendment also requires the government to purchase lands when federal actions decrease property values by 50% or more.

The bill was also amended to allow landowners to seek compensation whenever a federal action caused at least a 20% drop in the value of even a portion of their property. The original provision applied a 10% trigger to the value of the entire parcel.

The Senate version of the property rights bill's scope is "even broader" than the House version, applying not just to rules on endangered species, wetlands and water rights, but also to health and safety regs.

The Senate bill was "quickly condemned" by Interior Secretary Bruce Babbitt, who had "expressed the hope" that the Senate would act as a "moderating influence" on the House. "But Babbitt and other critics now fear that the bill that emerges from Congress will be at least as strong as the House version."

Joseph Sax, a counselor to Babbitt, said the legislation would force the government to make a choice between paying billions of dollars to prevent pollution and ending enforcement of laws designed to protect human health and natural resources.

But the bill's proponents "scoffed" at the charge that the government would have to pay polluters not to pollute. Sen. Bob Dole's (R/KS) counsel, Kyle McSlarrow, said the bill would allow the government to prohibit any use of property that amounts to a "nuisance" without compensating land owners. Senate action on this issue is expected after the April recess.

Sources: Land Letter, March 20,1995, Vol. 14, No. 9 and Greenwire, Vol. 4, No. 222.

Unfunded Mandates Bill Signed

In late March President Clinton signed into law the unfunded-mandates bill, part of the House Republicans' Contract With America. "In a conciliatory Rose Garden speech," Clinton said the legislation showed that "Republicans and Democrats can come together and break gridlock and do what the American people expect

of us".

But the bill "may not be as revolutionary as the president and congressional backers suggested." The new law requires the Congressional Budget Office to estimate the cost of legislation expected to require more than $50 million in spending by states and local governments or more than $100 million by private businesses. If Congress does not want to pay for mandates exceeding the limit, "all it has to do is take a majority vote not to".

Because of exemptions in the law -- for anti-discrimination laws and for mandates on states wanting federal assistance -- it would have applied to only nine of 27 mandates Congress passed from 1981 to 1990, according to Bruce McDowell of the US Advisory Commission on Intergovernmental Relations. "Nearly all of them were environmental rules, he said".

The law applies only to future mandates, leaving in place provisions of the Clean Air Act, the Clean Water Act and other laws that mayors and governors "complained were bleeding their budgets."

Source: Greenwire, Vol. 4, No. 221.

Clinton Orders New Reform Push

"Vowing to 'bring back common sense' to government regulations," President Clinton has given federal agencies three months to review their rules and "identify those that are obsolete or overly burdensome." Clinton "painted a sharp contrast between his approach and that of House Republicans," who are pushing a bill to freeze all federal rule-making until either the end of the year or passage of a separate cost-benefit analysis bill.

The president conceded that a regulatory moratorium "sounds good," but he argued: "It would stop new protection from deadly bacteria in our drinking water, stop safer meat and poultry, stop safer cars. ... Therefore, to me a moratorium is not acceptable." Senior administration officials confirmed that was a direct veto threat.

Clinton said GOP proposals on regulation "go too far." "They would cost lives and dollars. A small army of special-interest lobbyists knows they can never get away with an outright repeal of consumer or environmental protection. But why bother if you can paralyze the government by process?"

In remarks earlier yesterday, House Speaker Newt Gingrich "lashed out at Clinton's new turn toward partisan confrontation." Gingrich said, "His administration is now actively opposing us, from crime bills to regulatory reform ... to a whole range of other issues. The President is locked into sort of a left-wing, big-government approach that we are convinced will not work"

The president set a 6/1 deadline for agency heads to send him lists of unneeded rules. In addition, he "asked regulators to form grassroots partnerships with business, to negotiate rather than dictate and to stop measuring inspectors by how many citations they write".

Over the next few months, VP Al Gore will give Clinton a series of proposals to reform regulations affecting the environment, health, food, worker safety and other areas. "Gore's 'Reinventing Government' campaign has focused on overhauling regulations" since 12/94.

Source: Greenwire, Vol. 4, No. 199.

River Casino Lawsuit

A lawsuit has been filed against the U.S. Army, Corps of Engineers; Army Secretary Togo D. West Jr.; Chief of Engineers Lt. General A. E. Williams; and Memphis District Engineer Theodore C. Fox to stop further development of riverboat casinos along the lower Mississippi River. The suit was filed in the U.S. District Court, Western District of Tennessee by the Mississippi River Coalition, Inc., a Mississippi nonprofit corporation; Peter Schutt; Michael Coop; and John Coop. The individual defendants are being sued in their official capacities as officers, agents and employees of the Department of the Army and the Corps of Engineers for violations of the National Environmental Policy Act (NEPA); the Clean Water Act (CWA); the Administrative Procedure Act (APA); and various Regulations, Guidelines, and Memoranda of Agreement.

The plaintiffs' case involves their concern for "recent and massive commercial developments in one of the most important wetland and migratory waterfowl habitat areas of North America ... and (the) widespread, unnecessary damage ... being done to the environment in violation of Federal law." In Tunica and Coahoma Counties, Mississippi, alone, applications have been filed for development of at least 25 casino gambling and related projects

These include construction of access roads, parking lots, hotels, restaurants, dance halls, sewage treatment plants, and other facilities in riparian habitat between the levees and the River. Some casinos plans project development of destination resorts that will include additional

facilities such as golf courses. The areas in question, lying between the Mississippi River and its levees, have been inaccessible, have a tendency to flood, and lack of utility for commercial purposes. They have thus remained undeveloped and now include extensive, environmentally valuable bottomland hardwood wetlands which the plaintiffs claim are among the most productive wildlife habitats in the world.

The plaintiffs allege that the permits have been issued in a "piecemeal fashion", (1) without preparation of environmental impact statements (EIS's), adequate environmental assessments (EA's), or special area management plans (SAMPS); (2) without consideration of the environmental impacts (direct and indirect, primary and secondary, individual and cumulative); (3) without proper consideration of alternatives, adequate notice to the public, adequate consultation with biological and wildlife agencies, and provision for adequate mitigation of environmental damages.

The defendants have: (1) "failed to consider the impact of the activities...within a regional context (ignoring) the loss of thousands of acres of wetlands and bottomland hardwoods in the lower Mississippi River Valley caused by the Corps' collateral levee raising project"; (2) "accepted, without questioning, the developers' overly optimistic projections of the economic benefits of their projects" and failed casinos have already "unnecessarily laid precious forested habitat to waste"; (3) "issued Public Notices that contain narrow and incomplete descriptions of the projects ... defeating the purpose of generating meaningful comments"; (4) allowed developers to define the project, work or activity for which a permit is required in an "unduly narrow fashion" limiting the ability to determine a project's water dependency and to identify reasonable alternatives; (5) not delineated wetlands accurately; (6) failed to give adequate consideration to similar comments and recommendations offered by the Mississippi Department of Wildlife, Fisheries and Parks; (7) improperly granted Section 404 permits when practicable alternatives exist; (8) improperly fragmented projects, thereby artificially reducing project impacts; and (9) provided inadequate mitigation for approved projects.

The plaintiffs are requesting a temporary restraining order and preliminary injunction and petition for mandamus and that the Court order the defendants to: (1) Comply with NEPA, the CWA, the APA, and the Regulations, Guidelines, and Memoranda of Agreement thereunder, and other applicable law; (2) Prepare an EIS in full compliance with NEPA; (3) Restrain from issuing any additional permits, modifications of permits, or letters of permission for any work between the levees and the River in connection with the development of gambling facilities; and (4) to reimburse the plaintiffs' court costs and the costs of litigations including reasonable attorney and expert witness fees.

Source: Peter Schutt, Mid South Hunting and Fishing News, 189 Jefferson Avenue, Memphis, TN 38103, (901) 522-9105.

Mining Law Proposal

Senate Republicans have unveiled their mining reform bill which "is considerably more accommodating to the mining industry" than last year's proposal backed by House Democrats and the Clinton administration. The bill, sponsored by Sen. Larry Craig (R/ID) and endorsed by Sen. Frank Murkowski (R/AK), chairman of the Energy and Natural Resources Committee, calls for a 3% net royalty on minerals extracted from federal land.

Last year's proposal called for an 8% royalty. Currently, the government collects no mining royalties under the Mining Act of 1872. The bill also would "force mining companies to pay fair market value for patented lands, require mines to comply with state reclamation standards and set up an abandoned mine lands cleanup fund." One-third of royalties would go directly to states, another third for state reclamation activities and the rest would go to the federal government's general fund. The bill is co-sponsored by 11 Republicans and two Democrats.

Although the Mineral Resources Alliance, an industry group, said the bill would "generate millions of dollars to the federal treasury", Interior Secretary Bruce Babbitt said the 3% figure is so low that administrative costs could exceed revenues generated. Babbitt also said the bill was a "step backward" on a number of points, including "the level of environmental protection that is now possible."

Murkowski said he hopes to win Senate passage this spring.

Source: Greenwire, Vol. 4, No. 209.

Yellowstone Mine Investigation

A US News & World Report investigation into the mining company Noranda Inc. – which along with two subsidiaries has spent $35 million developing the New World mine near Yellowstone National Park – indicates the company has a "long list" of enviro compliance problems in the US and Canada.

Four of Noranda's six US mining sites are under litigation for pollution problems. Since 1981, Noranda companies have paid more than $1.9 million in fines for pollution, health and safety violations in the US and about $1.2 million in Canada. According to Noranda Deputy Chairman Alex Balogh, "Despite all of that, we maintain we are [environmental] leaders. We have a checkered history, we have a vast number of operations and we are decentralized."

"Because Noranda is decentralized and has complex ties to its partners" in the New World project, enviros worry about who will bear legal responsibility for any enviro problems

from storage of the project's 5.5 million tons of acidic wastes. The company is seeking to be dropped from a 1993 lawsuit in which enviros charged that developers of the New World project polluted creeks and failed to secure permits. Although it has a 26% interest in the mine "on paper," Noranda claims "it has no direct link" to the mine and shouldn't be liable for damages.

Under the 1872 Mining Law, the federal government cannot block the New World project, but federal and state agencies "could pile on enough" conditions to render it "economically infeasible." Other federal laws give Interior Secretary Bruce Babbitt the option of delaying the project for several years, effectively killing it.

Source: Greenwire, Vol. 4, No. 208.

Massive Logging Proposal

In approving the $17.1 billion omnibus rescissions bill March 16, the House let stand a highly controversial amendment that would more than double timber harvests on federal lands in the name of restoring forest health. Overall, the bill reduced Interior Department funding for fiscal 1995 by more than $325 million. President Clinton has pledged to veto the measure unless it is substantially revised, according to Office of Management and Budget sources.

Under the present bill, the Forest Service and Bureau of Land Management would be required to offer up 6.2 billion board feet of "dead or dying" timber for sale over two years. That amount more than doubles the entire current yield across the national forest system. Current salvage operations on forest system lands totaled 1.6 billion board feet this year. The mandate supersedes existing forest plans and environmental laws by saying up front that the sales meet existing statutory requirements. Such "sufficiency language," which was used during the 1980s to produce exceptionally high yields, insulates timber sales from judicial review regardless of the environmental impact.

Environmental groups and administration officials intent on restoring scientific credibility to the Forest Service were incensed. "I think it's stunning that people can stand up and misrepresent what this legislation is about and, with a straight face, suspend all environmental laws on public lands and hand out a massive taxpayer subsidy to the timber industry," said Kevin Kirchner of the Sierra Club Legal Defense Fund. The rider essentially throws out President Clinton's Northwest forest plan and PACFISH, which was designed to save salmon habitat in the region. With the legality of both plans hanging by threads, such a dramatic increase in logging would render them useless legally and biologically, he said. "This is clearly a giveaway to the timber industry under the guise of forest health," said Steve Moyer of Trout Unlimited. "You always read about burned timber going to waste and that is totally ignorant of the fact that fires have always burned in national forests as part of the regeneration of the forests. To have the mindset that every last burned stick needs to be removed is not the way to look at timber management."

The bill faces Senate consideration where it will find ardent supporters in Senate Energy and Natural Resources Committee Chairman Frank Murkowski (R/AK) and Larry Craig (R/ID), who introduced his own bill, S. 391, to shield salvage logging from lengthy appeals. Although the House rider is broader and more specific than Craig's bill in mandating a specific harvest level, a Senate Energy Committee staff member said the provisions were complementary and would be pursued separately.

Environmentalists view these bills as a unified assault on land management laws and policy by a group that would like to have timber be the first, last and only use of national forests, said Michael Francis of the Wilderness Society. "They're moving as expeditiously as possible to turn the national forests into tree farms." If this bill is enacted in anything like its present form, any tract of ancient forest not now protected, any stand of forest anywhere, live or dead can be logged by any district ranger, forest supervisor or other forestry official who wants to meet his quota of getting the logs out of the woods in any given year," testified the National Audubon Society's Brock Evans at a March 1 hearing before a Senate Energy panel. "If this bill passes all of us who love the wild places and the wildlife and the fisheries of our national forests can kiss them goodbye."

"It's 25 years of forest policy and law turned down the drain to appease the timber interests in this country," Francis said. Steve Holder of the Western Ancient Forest Campaign agreed. "The fact that they've used sufficiency language tells the public that they're clearly going to break laws, and that's why they've exempted [salvage logging] from all federal laws." The language would supersede provisions of the Safe Drinking Water Act, Clean Water Act, watershed laws, forest management laws, and the Endangered Species Act, he said.

Source: Land Letter, March 20, 1995, Vol. 14, No. 9

Forest Service Grazing Permit Review

The US Forest Service (USFS) recently began telling Nevada and California ranchers that their 10-year grazing permits would not be renewed without an environmental assessment and public review to make sure that the land is not overgrazed. USFS

spokeswoman Erin O'Connor said on 3/24 that if land is in poor condition, some ranchers could face cutbacks in the number of livestock allowed to graze in national forests, while others could lose their permits entirely.

Ranchers are "expressing opposition" to the policy change. Benny Romero, president of the Nevada Cattleman's Association: "If you look at the whole picture, it's a movement to get livestock off the public lands." Rose Strickland, who led the Sierra Club's fight to change grazing policies, "defended the new procedures, saying they are meant only to insure compliance with the National Environmental Policy Act." Lawsuits by enviro groups prompted the policy change.

Source: Greenwire, Vol. 4, No. 222.

Artificial Snowmaking Fuels Water War

"An environmental tug-of-war" surrounds artificial snow, a "cornerstone" of the $1.5 billion-a-year US ski industry. Residents of Snowmass, CO fought against Snowmass ski resort's plan for a 415-acre expansion, concerned that use of Snowmass Creek for new snowmaking on 310 acres could "deprive fish spawning grounds of water." But state and county officials sided with the resort and approved its expansion plan.

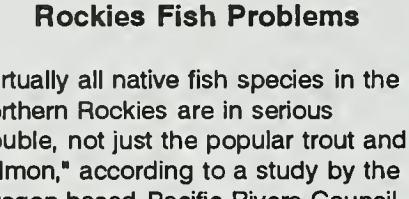
"Water is being wielded as a weapon against development," said Brent Gardner-Smith of Aspen Skiing Co. Resort operators "insist they don't endanger local water supplies, because water taken for man-made snow eventually melts and returns to the watershed." More than 300 of 516 US ski resorts make snow.

"The water war is on in the east too," says Lewis Milford, a Vermont lawyer for the Conservation Law Foundation. In Vermont, "activists reached a truce with Sugarbush and Okemo ski areas that may signal an industry shift." The resorts agreed to build "costly" reservoirs on their mountains to store water for snowmaking, "leaving rivers untouched when they're at their lowest".

Source: Greenwire, Vol. 4, No. 218.

Rockies Fish Problems

"Virtually all native fish species in the northern Rockies are in serious trouble, not just the popular trout and salmon," according to a study by the Oregon-based Pacific Rivers Council. The study blames the decline of 16



cutthroat trout

fish species in Idaho, Montana and northwest Wyoming on damage to watersheds and introductions of non-native species. It also cites "dangers" to frogs, salamanders, snails, turtles, mussels and aquatic plants.

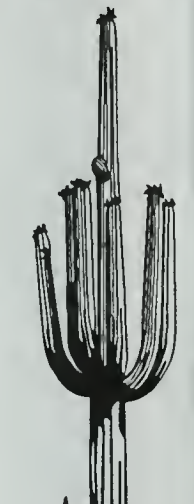
Although "many believe large wilderness areas and national parks provide adequate protection," research indicates "quite the opposite," the report said. The "most productive" and least protected streams are typically in low-elevation, managed areas that are "severely degraded and often occupied by introduced species." The group calls for an "aquatic conservation strategy" on public lands, focusing on reducing silt from roads, halting grazing along sensitive streams and lakes, reviewing fire-related timber salvaging and thinning, and stopping introductions of exotic species.

Source: Greenwire, Vol. 4, No. 206.

"County Movement" Challenged

Seeking to "assert US ownership and control of federal lands," the Justice Department filed suit (March 7) against Nye County, NV. The suit seeks to overturn two 1993 Nye County resolutions: one claiming ownership of "virtually every road" on federal land within the county; and another claiming that Nevada, not the US, owns national forests and other federal lands and that the county has authority to manage those lands.

Meanwhile, the Nevada Senate voted unanimously "to repeal the 1864 decision that gave public land to the federal government in exchange for statehood." If the Assembly also approves the measure, it could be on the state ballot in 1998. The federal government owns or manages 87% of Nevada land.



The suit is the Clinton administration's "first direct effort ... to block the spread in the West" of measures "that rural counties say give them the authority" to control federal land. Thirty-five counties in Nevada, California, New Mexico, Idaho and Oregon have passed ordinances asserting control over federal lands. Another 35 "are considering such measures," the Justice Department said.

In most cases, "nothing has happened beyond the county commission enacting an ordinance, then going out to dinner," said Associate US Attorney

General John Schmidt. But apparently Nye County officials have gone so far as to open up closed roads on the Toiyabe National Forest with a bulldozer and then file charges against Forest Service employees who advised them the action was improper. Much of Nye County's economy is based on mining and grazing, and many residents there argue that they should be given more opportunity to decide how land is to be managed, especially for grazing.

Source: Greenwire, Vol. 4, No. 210.

Environmental Strategies to Mobilize Grassroots

Concerned about an "anti-environmental" trend in US politics and the news media, several leading foundations have committed more than a million dollars to create a new group, "Environmental Strategies", that will mount public-education campaigns on green issues. While most enviro groups do research and lobbying, drawing on paid experts and direct-mail campaigns involving millions of members, the new group will "mostly be helping to mobilize grassroots groups and reflecting their concerns into the national debate," says group Executive Director Phil Clapp.

Environmental Strategies will spread its messages through a mix of "earned" media -- coverage gained through outreach to reporters -- and paid media, such as advertising. Clapp said that instead of continuing to spread money "thinly" across many enviro groups, the funders "saw a need for a small public-education and advocacy team, focused on a couple of issues a year, with a critical mass of funding adequate to support campaigns that will affect public perception of issues."

In a 2/10 press conference, Environmental Strategies joined forces with enviros, labor unions, church groups and a new group, the American Community Protection Association, comprised of state and local officials who would be "victimized" by "takings" bills, Clapp said. Takings bills would require government to compensate landowners whenever actions such as endangered species listings or wetlands designations lower the value of their property. ES has been airing TV ads featuring Littleton, CO Mayor Pro-Tem Susan Thornton, who criticizes the potential fiscal impact of the House takings bill.

Clapp declined to say how much money ES will get from the foundations, which include the Pew Charitable Trust, the Rockefeller Family Fund, the W. Alton Jones Foundation and the Nathan Cummings Foundation. Leading a staff of five, Clapp is a former legislative director of the law firm Spiegel & McDiarmid, where he helped represent municipal governments on Superfund issues. He was legislative director for then Rep. Timothy Wirth (D/CO) in the early '80s.

Source: Greenwire, Vol. 4, No. 206.

Who am I
I am the river
I am like the river at least
I am
swimming
through
life
taking each day
like another
bend
to flow around
cutting out new
filling in old
sometimes deep
sometimes shallow
sometimes thick with meaning
sometimes thin and transparent
like a river, life flows
like a life, the river flows, surprises
for me, my love with the river began early
was consummated in the moonlight, toes in the mud
naked in the moonlight - goose bumps screaming
get out fool moonbeams held me tight
cool water swirling round my ankles
like the river slipping by an island
taking its time - river time, timeless
I stood at the brink of shivering, spellbound
thinking nothing but feeling full, the fullness of
the river. my six year-old spirit was merged that night,
wet river - wet child, shiners nibbled the peach fuzz leg
hairs standing on end - endless night. river night. birth
night. SMELLS, river smells that scoured deep into olfactory
synapses - algae, mud, fish, beaver castor, coontail and celery
rotting in wind-rows, poison ivy thickets, cottonwood wood and
water. SOUNDS, river sound bars layered thick in auditory eddies
- tree frogs, heron squawks, barred owls, green frog croaks,
beaver tail dunks, muskrat murmurs, fish swirls and water.
VIBES, subtle river vibes trickling through the senses
flooding the soul with meaning -
pharyngeal teeth gnashing molluscan
bones and muscle mussel feet plunging
into the river bed, turtle jaws eviscerating
fish, beaver jaws emasculating trees,
duck wings slicing the thick
night air, river water
moving another
farm on down
towards Iowa.
Like a river
my life
has flowed
around
easy bends
sharp
bends. divided
into paths
rejoined as
one
like a life, my river needs room to flow, paths to choose,
moods to sing to. celebrations, lamentations, incarnations,
sweet sensations
free for life
life for free
mine
yours
theirs
ours
immortal river
mortal me
free
free
me.

An Inspirational Piece Written by Mike Davis, Minnesota DNR, "Visionary and Friend of the River".

Ecological Economics

Ecological Economics is a new conception of the relationship between economics and ecology, one that more accurately depicts the economic subsystem as a part of the larger ecological life-support system. To solve major environmental and economic problems such a conception must go beyond the narrow boundaries of the traditional academic disciplines to extend and integrate the study and management of "nature's household" (ecology) and "humankind's household" (economics).

It must acknowledge that in the long run a healthy economy can only exist in symbiosis with a healthy ecology. This new vision of an "ecological economy" is beginning to be put into practice by a recently formed, worldwide transdisciplinary organization called the International Society for Ecological Economics.

Ecological economics emphasizes a long-run view and the goal of a sustainable ecological and economic system. In the short run there may be apparent trade-offs between some particular jobs (like logging) and some particular efforts to preserve natural capital (like old growth forests). Often, short-run reinforcements and incentives run exactly counter to long-run goals, and it is just these situations that are at the root of many of our most recalcitrant social and environmental problems.

The dynamics of these situations have been well studied in the past decade under several rubrics, one of which is John Platt's notion of "social traps". In all such cases the decision-maker(s) may be said to be 'trapped' by the local conditions into making what turns out to be a bad decision viewed from a longer or wider perspective. We go through life making decisions about which path to take based largely on "road signs," the short-run, local reinforcements that we perceive most directly. These short-run reinforcements can include monetary incentives, social acceptance or admonishment, political pressure, and physical pleasure or pain. In general, this strategy of following the road signs is quite effective, unless the road signs are inaccurate or misleading. In these cases we can be trapped into following a path that is ultimately detrimental because of our reliance on the road signs.

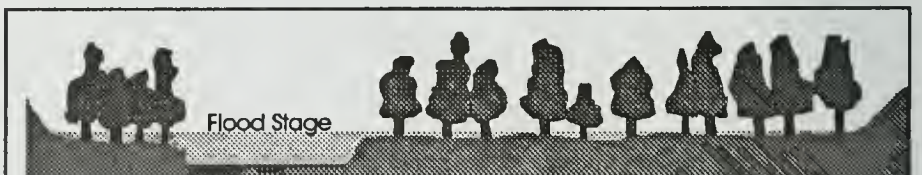
If we are to avoid the many "social traps" baited by narrow short-run interests, we have to both take a long-term view and learn how to effectively change the local short-term reinforcement structures in order to remove the "bait" from the trap. An important method of doing this is to provide information on the nature of the traps. Journalists have a key role to play in this process by simply describing the perverse dynamics of these situations and helping to remove or reduce the effectiveness of the bait.

In the case of the northwestern old growth forests, journalists can point out that in the long-run, if logging continues all the forest will be cut down and the loggers will be out of work anyway. To remove the bait from the trap, one must devise alternatives for the loggers to allow them to make the transition to other jobs smoothly. Jobs involved in the ecologically sustainable use of the old growth forests for recreation and low scale harvesting would be ideal, and government programs aimed at stimulating the development of these sectors would be much more effective than spending money on legal battles.

Another major social trap we are deeply ensnared in has to do with the limited and biased information on overall economic performance upon which we base many of our major social decisions. Gross National Product (the total "value" of all the nation's marketed goods and services in a given year) and other related measures of national economic performance have come to be extremely important as policy objectives, political issues and benchmarks of the general welfare. Yet GNP as presently defined ignores many important contributions to well being, including the contributions of nature. This leads to peculiar and misleading signals.

For example, a standing forest provides real economic services for people: by conserving soil, cleaning air and water, providing habitat for wildlife, and supporting recreational activities. But as GNP is currently figured, only the value of harvested timber is calculated in the total. On the other hand, the billions of dollars that Exxon spent on the Valdez cleanup – and the billions spent by Exxon and others on the more than 100 other oil spills in the last several years – all actually improved our apparent economic performance. Why? Because cleaning up oil spills consumes labor and resources, all of which add to GNP. Of course, these expenses would not have been necessary if the oil had not been spilled, so they shouldn't be considered "benefits." But GNP adds up all production without differentiating between costs and benefits, and is therefore not a very good measure of economic health.

A similar situation presents itself when a disaster such as a flood occurs. The 1993 flood pumped billions into local economies for the recovery and clean up effort that followed. Certainly, the flood was good for certain segments of the economy (i.e. those who were employed in rebuilding houses and levees).



Natural floodplains provide many ecological economic benefits, as well as compatible agricultural uses such as dry year farming, grazing, and timber production. They also provide significant flood water storage and conveyance capability.

Unfortunately, the rest of us paid for it in lost opportunities to use those dollars for other purposes, a growing national debt, and in foreclosing floodplain use options when levees were rebuilt. We essentially "put Humpty Dumpty back on the shelf" to await the next flood so we can do it all over again! Only the special interests gained by being allowed (essentially encouraged) by the rest of us to continue to follow the wrong paths.

When resource depletion and degradation are factored into economic trends, what emerges is a radically different picture from that depicted by conventional methods. Herman Daly and John Cobb have attempted to adjust GNP to account mainly for depletions of natural capital, pollution effects, and income distribution effects by producing an "index of sustainable economic welfare" (ISEW). If you consider two versions of their index compared to GNP over the period from 1950 to 1986, what is strikingly clear is that while GNP rose over this interval, ISEW remained relatively unchanged since about 1970. When factors such as loss of farms and wetlands, costs of mitigating acid rain effects, and health costs caused by increased pollution, and the increasingly unequal distribution of income are accounted for, the economy has not improved at all.

If we continue to ignore natural ecosystems, we may drive the economy down while we think we are building it up. By consuming our natural capital, we endanger our ability to sustain income. Current systems of regulation are not very efficient at managing environmental resources for sustainability, particularly in the face of uncertainty about long-term values and impacts. They are inherently reactive rather than proactive. They induce legal confrontation, obfuscation, and government intrusion into business. Rather than encouraging long-range technical and social innovation, they tend to suppress it. They do not mesh well with the market signals that firms and individuals use to make decisions and do not effectively translate long-term global goals into short-term local incentives.

We need to explore promising alternatives to our current command and control environmental management systems, and to modify existing government agencies and other institutions accordingly. The enormous uncertainty about local and transnational environmental impacts needs to be incorporated into decision-making. We also need to better understand the sociological, cultural, and political criteria for acceptance or rejection of policy instruments.

One example of an innovative policy instrument currently being studied is a flexible environmental assurance bonding system designed to incorporate environmental criteria and uncertainty into the market system, and to induce positive environmental technological innovation.

In addition to direct charges for known environmental damages, a company would be required to post an assurance bond equal to the current best estimate of the largest potential future environmental damages; the money would be kept in interest-bearing escrow accounts. The bond (plus a portion of the interest) would be returned if the firm could show that the suspected damages had not occurred or would not occur. If they did, the bond would be used to rehabilitate or repair the environment and to compensate injured parties. Thus, the burden of proof would be shifted from the public to the resource user and a strong economic incentive would be provided to research the true costs of environmentally innovative activities and to develop cost-effective pollution control technologies. This is an extension of the "polluter pays" principle to "the polluter pays for uncertainty as well."

Ecological economic thinking leads us to conclude that instead of being mesmerized into inaction by scientific uncertainty over our future, we should acknowledge uncertainty as a fundamental part of the system. We must develop better methods to model and value ecological goods and services, and devise policies to translate those values into appropriate incentives. If we continue to segregate ecology and economics we are courting disaster. For more information on the International Society for Ecological Economics (ISEE) contact: Dean Button, Executive Secretary, ISEE, PO Box 1589, Solomons, MD 20688, (410) 326-0794.

A recent book available on the subject is: R. Costanza (ed). 1991. Ecological economics: the science and management of sustainability, Columbia University Press, New York.

Source: Excerpted and adapted from an article written by Robert Costanza, Director of the Maryland International Institute for Ecological Economics and chief editor of "Ecological Economics", the journal of the ISEE.

Enviro Audits Improve Financial Performance

About 66% of the companies in a recent study found that environmental audits improved their financial performance, according to a survey conducted late last year by the Manufacturers Alliance, a policy-research organization. The report is based on responses from 129 companies with a median of $2.1 billion in annual sales and 15,000 employees.

Industries represented included electrical equipment and electronics, transportation equipment, metals and chemicals. The median respondent had had an enviro-audit program

since 1990. Not one respondent had made its audit report available to the public: 66% kept the reports confidential and 44% placed them under attorney-client privilege, the report says. Ninety-seven percent said they performed audits to assure compliance with regulations; 86% used them to assess non-regulatory environmental risks; and 19% used them to assess financial liability.

"Several" recent studies including one by the World Resources Institute (WRI), "found that while some environmental regulations may be unnecessarily costly, there is no evidence that they have reduced the competitiveness of US industry." Using a new government survey of more than 100,000 manufacturers, the WRI study found no correlation between a firm's profitability and its pollution levels.

Robert Repetto, the WRI economist who performed the study, stated that oil, chemical, steel and paper industries "experienced only slight reductions in their share of world exports for 1970 to 1990 -- much less of a drop than suffered by American industry generally."

Repetto's conclusions are "similar" to those of a 12/94 study sponsored by the National Bureau of Economic Research and Resources for the Future. In a review of more than 100 studies, four economists "concluded that there is little evidence that environmental compliance costs have 'adversely affected the competitiveness of US manufacturing firms.'"

Source: Greenwire, Vol. 4, No. 216 and 223.

Environmental Opinion Polls

Fifty-five percent of Americans think enviro rules aren't strict enough, according to a new poll by Princeton, NJ-based Environmental Research Associates. Asked what enviro regs they would change, 25% mentioned natural-resource rules, 24% mentioned rules on chemicals or toxics and 22% said they didn't know.

Only 3% called for general regulatory reform, and only 1% specifically said they would change enviro rules affecting property rights. Asked what rules they thought the GOP Congress would change, just 8% mentioned reg reform, and only 1% mentioned property rights. Environmental Research Associates interviewed 1,002 adults nationwide from 2/25-3/9; margin of error is +/- 3.1%.

Enviro Regs Are:

Too strict	12%
Just about right	27
Not strict enough	55
Don't know	6

What Enviro Regs, If Any, Would You Like to See Changed?

Natural resources	25%
Regulatory reform	8
Toxics/chemicals	24
Natural resources	7
Waste disposal/recycling	19
Toxics/chemicals	6
Wildlife	7
Make more strict	5
Energy	6
Wildlife related	3
Make more strict	4
Waste disposal/recycling	2
Regulatory reform	3
Energy	1
Property rights/takings	1
Don't know	22

While 69% of Americans trust their state government "to do a better job of running things" than the federal government, they are split about evenly on which level of government should handle enviro protection, according to a new ABC News/Washington Post poll. Chilton Research Services surveyed 1,524 adults from 3/16-19; the margin of error was +/- 3%.

Generally, Which do you trust to do a better job running things?

Federal government	27%
State government	69
No opinion	3

Which do you trust to set enviro rules on clean air and water?

Federal government	47%
State government	51
Neither	1 ^
No opinion	1

^ Answer volunteered.

Source: Greenwire, Vol. 4, No. 225.

Enviro Farm Program Support?

According to a Des Moines Register article by George Anthan, Enviros who supported the 1985 and 1990 farm bills may withdraw their support for price-support programs if the farm lobby continues to pursue "hard-line positions" on property rights and regulatory reform.

Many agriculture groups have "launched an all-out battle" to overturn the Clean Water Act's wetlands provisions, as well as parts of the Endangered Species Act that limit land uses. The American Farm Bureau Federation also is supporting reg-reform and property-rights bills recently passed by the House. Those bills would overturn some of the 1985 Farm Bill's conservation requirements and force the government to compensate owners whose land would be devalued by complying with those rules.

The conflict with enviros "threatens to erode" the ag industry's "already tenuous position" as it seeks to preserve its "multibillion-dollar" price-support programs. According to Environmental Working Group's Kenneth Cook, if farm interests succeed in weakening soil and conservation rules, then the "correct spending level for farm programs so far as environmentalists are concerned [would be] zero. We'd no longer have a stake in a farm bill."

Enviros say the Conservation Reserve Program, which gives farmers $19 billion a year to idle environmentally sensitive land, "could not have been achieved politically without their backing." Neil Schaller of the Henry

Wallace Institute for Alternative Agriculture agrees that the "uneasy partnership" between enviros and farmers "may be ending."

Source: Greenwire, Vol. 4, No. 212.

Crack Down on Western Water "Loopholes"

In a "move that will dramatically alter the distribution of water" in Western states, the Clinton administration is "about to crack down" on farmers who "skirt" a federal law limiting subsidized water to farms smaller than 960 acres. For years, "loopholes" in the law "have guaranteed cheap federal water to some of the biggest farming operations in America," the L.A. TIMES reports.

Many growers have divided up their "massive" water holdings into 960-acre trusts "in the name of sons, brothers and distant cousins." But under new rules of the US Bureau of Reclamation, cotton and vegetable growers who now pay $18 an acre-foot for water will have to pay as much a $60-90 an acre-foot "without the subsidy – an increase of up to 500%." The rules may be

implemented as early as this year.

San Joaquin Valley farmers plan to appeal to Washington, where a fight "could place conservative politicians – longtime supporters of cheap water for agriculture – in the position of supporting subsidies to big farmers." Farmers say the Clinton administration is "responding to pressure" from enviros and "proceeding on a false premise" that farmers are "big, greedy bad guys." But "with no more rivers being dammed, cities and farms must find a better way to share" water, enviros argue.

BuRec Commissioner Daniel Beard and Rep. George Miller (D/CA) say farming in western San Joaquin Valley is "costly and inefficient" and much of the land is "laden with toxic salts" that can kill wildlife. "Making farmers pay the true cost of the water, they believe, will retire some of the worst land and free up water for other uses".

Source: Greenwire, Vol. 4, No. 222.

Cumulative Impact Study Ordered for Minnesota Irrigation Project

For the first time, a Minnesota court has ordered preparation of an environmental impact statement (EIS), "an action that could have major implications for proposed private and public projects" across the state. The Minnesota Court of Appeals ruled on March 7 that the state Agriculture Department should have required an EIS on a proposed farm irrigation project.

The ruling, which requires the state to consider not only the project itself but the "potential cumulative effects of additional related projects," could mean that many other proposed projects "can no longer be evaluated in isolation." Paul Strandberg, Minnesota assistant attorney general, said state officials "will seriously consider appealing" the ruling.

A 1973 state law requires an EIS for any major action that could have significant environmental effects. But state agencies "very seldom order them," often requiring simpler and cheaper environmental assessment work sheets instead.

Source: Greenwire Vol. 4, No. 210.

Future Farmers Promote Filter Strips

High school student members of Future Farmers of America (FFA) across 16 states are attempting to enroll farmers in a program to plant filter strips or "green stripes" along lakes, streams, rivers, and around sinkholes. In turn, the Monsanto Corporation, which conceived the program, gives the FFA chapter a $100 educational grant for each farmer it enrolls. Monsanto has also established a "Best Chapter" award that will be given to the FFA chapter in each state that creatively uses the program to include other environmental approaches such as wildlife protection and habitat restoration projects.

FFA chapters receive press release packages that they can use to publicize their program locally, while field days conducted in the fall generate statewide publicity for the program. Field day participants include representatives from agribusiness, education, Extension, NRCS, state departments of agriculture and natural resources, and the media. The field days model conservation activities in agriculture and show how green stripes reduce soil erosion and nonpoint source runoff.

Source: Nonpoint Source News-Notes January/February 1995, Issue No. 39

Potential EPA Action on Fishing Tackle Targeted

The House GOP's designated "regulation fighter," Rep. David McIntosh (R/IN), is calling a proposed US EPA rule that could affect lead fishing sinkers and lead-based ammunition an example of "bureaucratic arrogance." McIntosh, chair of the House Regulatory Affairs Subcommittee, and Senate Majority Leader Bob Dole (R/KS) met on 2/2 to discuss legislation that would "put an immediate end to all proposed federal regulations until laws can be drafted to reform the regulatory process."

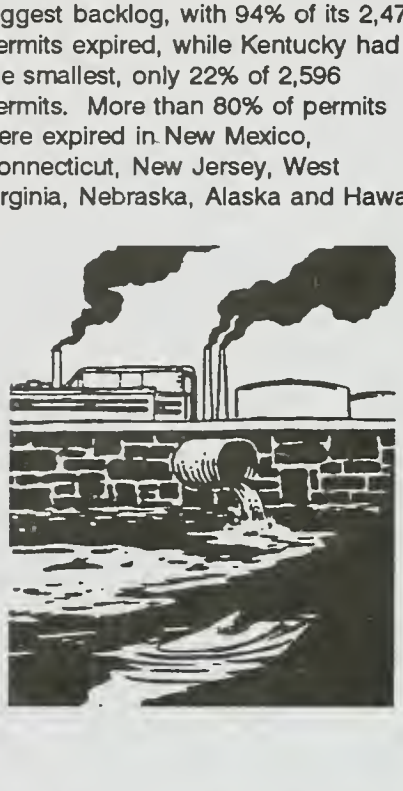
Earlier in the year, McIntosh and 50 House members sent a letter to EPA Administrator Carol Browner opposing federal regulations on bullets, shot or sinkers under the Toxic Substances Control Act. They were responding to an EPA notice of proposed rule-making, which mentioned the items as examples of enviro threats.

EPA denied it is planning to ban lead ammunition, saying the proposal was published "to obtain early feedback."

Source: Greenwire, Vol. 4, No. 189.

Most U.S. Water Pollution Permits Have Expired

Across the US, more than half of all state-issued water-pollution permits are expired, according to a Detroit Free Press analysis of US EPA data through 1993. Virginia had the biggest backlog, with 94% of its 2,475 permits expired, while Kentucky had the smallest, only 22% of 2,596 permits. More than 80% of permits were expired in New Mexico, Connecticut, New Jersey, West Virginia, Nebraska, Alaska and Hawaii.



"The permits – basically the regulation and monitoring system for pollution – are supposed to be updated and renewed every five years, but remain in force after their expiration dates." Renewal backlogs are "a cause of concern," but "some states may be swift at renewals" while their permits are weak or their enforcement lax.

Although states don't face federal penalties for lapsed permits, "that doesn't mean there are no serious consequences." For example, beaches in Lake St. Clair, MI were closed for months last summer due to fecal-bacteria contamination partly from two "giant" sewage pipes with permits that expired in the 1970s.

According to EPA Administrator Carol Browner, "If laws are not being complied with ... that's a very serious concern – absolutely." Browner said the EPA could threaten to take over the permitting process from states, but it lacks the money and staff to do so.

Source: Greenwire, Vol. 4, No. 200.

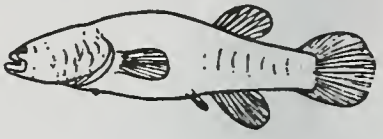
Ozark Cavefish Sparks Missouri Pollution Prevention Effort

According to Brian Canaday of the Missouri Department of Conservation, area landowners have responded positively to a voluntary approach toward pollution prevention in southwest Missouri, especially when they realize that high quality groundwater is as essential to them as it is to the cavefish.

The Ozark Cavefish listed as federally threatened is also listed as endangered by the state. The species is known to occur at only 25 sites in the world; mostly in Missouri, with a few in Arkansas and Oklahoma. Its survival depends on the quality of the groundwater that feeds its subterranean pools. "The porous karst landscape is like a sponge, allowing surface water to percolate quickly through the limestone without the filtering effect found in other areas," explained Canaday. Waste from poultry and dairy operations in groundwater recharge areas is the biggest potential threat. A sudden failure of a farm's waste lagoon could be disastrous.

"The best way to halt further decline is to prevent problems before they occur," says Canaday, who also notes that because the state listing carries no regulatory authority, his program relies on landowner awareness and cooperation to protect the remaining cavefish.

A U.S. Fish and Wildlife Service (FWS) plan is the cornerstone of the recovery effort. It lists a number of factors contributing to the decline of this species, including habitat destruction, specimen collection, and declining water quality. Water quality is affected by erosion from row cropping, road construction, and clear cutting. Leaking septic tanks also add to pollution.



Ozark cavefish

Canaday, working with landowners for about 18 months, says that usually only small changes such as capping abandoned wells, revegetating cave entrances, installing cave gates to exclude humans, proper septic maintenance, etc. are needed to reduce or eliminate current or potential problems.

The landowner contact program includes education, site visits, and management options. Educational activities include landowner workshops where conservationists explain the background and biology of the Ozark cavefish, factors that influence its populations, and state recovery activities. Important information is also provided on how landowners themselves can help.

The Cavefish Public Outreach and Habitat Management Project uses a holistic approach that pulls together various federal, state, and local resources to provide technical, educational, and financial help tailored to individual situations. For example, EPA funding has been provided for land use planning, revegetation, livestock exclusion, and the sealing of abandoned wells.

For more information contact: Brian Canaday, Missouri Department of Conservation, 2630 North Mayfair, Springfield, MO 65803, (417) 895-6880.

Source: January/February 1995, Issue #39 Nonpoint Source

Phased BMP Implementation in Tennessee River Basin

An agricultural Best Management Practices (BMP) project in southwestern Virginia's Middle Fork Holston River watershed is reported to be succeeding in both stream and community environments. The project, now a prototype for TVA's Clean Water Initiative, originated locally.

In 1984, citizens of the watershed expressed concern about the quality of the Middle Fork Holston River; turning for help to their water resource management agencies, they were surprised to learn how little was known about the river, which is used as a recreational fishery and water supply, and is a home to sensitive and threatened mussel species. Residents formed the Middle Fork Holston Water Quality Committee and asked TVA's Water Management Group to help them review the river's condition.

TVA used two innovative tools: (1) medium scale (1:2,000) color infrared aerial photography to identify land uses and potential nonpoint sources of pollution in the 240-square-mile watershed; (2) and an index of biotic integrity (IBI) to assess the biological condition of several streams in the watershed and to indicate how nutrients, pathogens, sediment, or habitat losses affect aquatic life.

Hutton Creek, with an IBI score of 32, rated "poor" and was selected for a project demonstrating phased BMP implementation. The IBI pointed to nutrient and sediment inputs as major stressors on the stream's biota. The aerial inventory revealed that the creek had a high potential for agricultural Nonpoint Source impacts from three sources: confined livestock operations, pastureland erosion, and livestock access to riparian areas.

The project sets a realistic goal that the community can support. Since local streams are used more for bank fishing than for swimming, improving the fishery became a meaningful community goal. In addition, the strategy reflects a practical timeline for initiating federal and state programs. TVA's Renee Hurst says the phased implementation strategy provides initial cost-share and technical assistance to farmers for practices that they readily accept, and gradually introduces more controversial BMPs.

Realizing that local landowners might resist streambank protection BMPs, TVA began with animal waste treatment practices. Because land treatment projects need more lead time, TVA made soil erosion its second target. USDA took the lead on this component, and is currently addressing soil erosion on the agricultural lands in the Hutton Creek watershed (primarily overgrazed pastures).

In its final phase, the project focuses on streambank/riparian treatments. Native plantings and livestock exclusion are now being incorporated at sites within the Hutton Creek watershed that have other projects already in place. One such project is an ongoing 319 project to track BMP implementation in riparian areas. Because Hutton Creek has lost so much woody streambank vegetation, TVA anticipates that results from this phase of BMP implementation will take a long time to appear.

Indications are that the phased strategy is working. Farmers are now more willing to discuss livestock exclusion, and one Hutton Creek farmer independently implemented the controversial BMP on one of his farms in another watershed.

In the TVA Clean Water Initiative program, water resource and community relations experts team up to promote water resource protection in each of the Tennessee Valley's 12 subwatersheds. River Action Teams (RATs) assess the condition of their watersheds and gather the people and resources needed to address priority water issues.

These unique teams take a holistic approach to water resource management, focusing more on resource needs than on particular sources of pollution, regulatory programs, or legislative requirements; develop strategies to balance land use and ecological integrity; consider the needs of all stakeholders in the design of regulatory and innovative nonregulatory solutions; and actively promote protection of the resource.

The fundamental role of River Action Teams is coalition building-seeking support from regulatory agencies, community leaders, business and industry, interest groups, and private citizens to develop and implement protection and mitigation plans. The plans may focus on public awareness, regulation, citizen action, landowner cooperation, or demonstration projects.

River Action Teams are currently at work in the Holston and Clinch-Powell watershed in Tennessee, the Hiwassee watershed in Georgia, North Carolina, and Tennessee; and the Wheeler-Elk watershed in Tennessee and Alabama. For more information contact Renee Hurst, TVA, 400 West Summit Hill Dr., Knoxville, TN 37902, (615) 632-8503.

Source: January/February 1995, Issue #39 Nonpoint Source News Notes

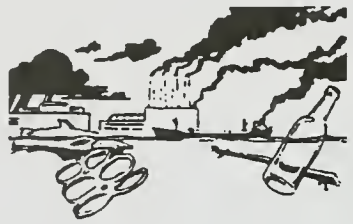
Louisiana Leads In Toxic Releases, Texas in Cuts

Louisiana led the nation in toxic-chemical releases for the third straight year in 1993, according to US EPA Toxic Release Inventory (TRI) data released on 3/27. Louisiana chemical and petrochemical companies released 451 million pounds of chemicals on the TRI list – 16% of the nation's total.

State and industry officials say 1994 saw a "dramatic drop" in such releases, because of changes instituted at several chemical plants over the past four years. The EPA's 1994 figures will be available next year. The statistics also show Louisiana ranked first among states accepting hazardous chemicals from other states and countries, with 323

million pounds of imports.

Texas in 1993 led all other states in cutting reported releases of industrial toxic pollutants, state officials announced on 3/27. "Depending on who did the calculating – federal or state officials" – total industrial releases of toxic substances fell either by 16.4% to 352 million pounds, or by 9.5% to 381 million pounds. The Texas Natural Resource Conservation Commission (TNRCC) derived the 9.5% figure by omitting substances for which calculation formulas were changed – "something state officials believe yields only a 'paper decrease'" in emissions.



TNRCC also calculated a 10.9% drop in toxics shipped for disposal, treatment, incineration or recycling. The TRI data showed Texas industries "continued to rank second nationally in total toxic releases, as they have for five years"

Two mining companies produced nearly a third of Missouri's hazardous releases, the TRI report showed. The Doe Run Co. in Jefferson County released nearly 4,100 tons of toxic substances, "most of them heavy metals." Iron County's Asarco Inc. released about 3,500 tons.

Toxic releases by Georgia industries fell by 11% from 1993 to 1992, to 60.4 million pounds. "The decline is part of a continuing downward trend in the release of toxic chemicals, which state officials say indicates genuine efforts by industry to reduce toxic emissions"

The Du Pont Corp's 55 chemical plants "led the nation in releasing pollutants," with 206 million pounds of releases. The chemical industry as a whole reported releasing 1.3 billion pounds of toxics, followed by the metals industry with 329 million pounds, the paper industry with 216 million, transportation equipment with 136 million, and plastics with 127 million.

Despite the TRI data, "the amount of toxic chemicals released into the environment remains largely unknown." TRI figures include only 316 chemicals, omitting "some of the world's deadliest compounds," which "are produced in such small quantities that they don't have to be reported." The data also exclude emissions by many large-scale polluters, such as electric utilities, incinerators, and federal facilities. The EPA has proposed adding 313 more chemicals to the list

Lynn Goldman, EPA assistant administrator for toxic substances, "warned that such information may not be available to the public in the future." An amendment proposed by Sen. Trent Lott (R/MS) "would require proof of the health hazard of a chemical before the EPA could require information on its release".

Source: Greenwire Vol. 4, No. 224.

GOP Bill Would Dismantle DOE by the End of '95

"Forging ahead with promises to trim the federal bureaucracy of fat," Rep. Sam Brownback (R/KS) has drafted a bill to dismantle the Department of Energy by the end of the fiscal year. Under the plan, the DOE's three weapons labs would be folded into a new National Special Weapons Agency. The bill would privatize the remaining 25 laboratories as well as "a wide range" of DOE functions, including the Strategic Petroleum Reserve and "all federal oil shale reserves." Four federal power agencies, including the Alaska Power Administration and the Bonneville Power Administration, would be sold.

Energy Secretary Hazel O'Leary argues the agency's environmental cleanup and nuclear-weapons programs – which Brownback would transfer to the new agency – "are much better off" under DOE's control. The fight over the DOE's future is likely to intensify over the next few weeks. Sen. Majority Ldr. Bob Dole (R/KS) has said he will push for the agency's elimination, and the Clinton administration has proposed a $14 billion cut in the DOE budget over five years.

Source: Greenwire, Vol. 4, No. 222.

Fishing Fleet Disaster?

Massachusetts Gov. William Weld (R) has asked President Clinton to declare the "collapse" of Massachusetts fisheries a natural disaster, "a move that would make state [fishers] eligible for millions of

dollars of federal financial help". Most of the Georges Bank fishery and parts of the Gulf of Maine – a total of 6,600 square miles – were closed to fishing in 12/94 "because the numbers of cod, haddock and flounder had reached all-time lows".

To convince Clinton the fisheries problem is a natural disaster, the Weld administration "apparently will have to prove that the collapse of the fisheries is principally due to environmental and natural factors rather than

overfishing". "Scientists and government experts generally agree that overfishing is the most important reason for the reduction of the fish populations".

In his request, Weld notes that federal policies in the 1970s and '80s "led to overfishing by encouraging the industry to expand its capacity." But he cites predation, competition with other species, and "unfavorable environmental conditions" – such as a rise in water temperature – as the main reasons for poor production of young groundfish.

Weld's move was "patterned on recent steps in the Pacific Northwest, where the salmon fishery [has] been declared a federal disaster area". Northwest coastal communities last year won approval for $15 million in federal aid.

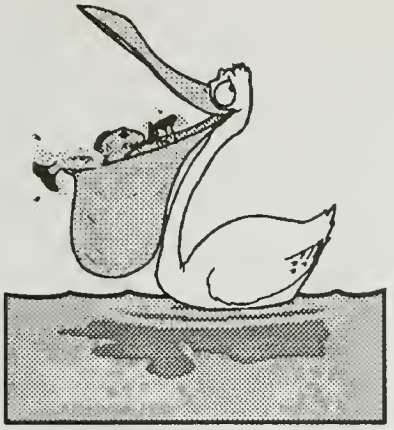
Weld's Office of Economic Development later this month is expected to release the outline of a "comprehensive plan" for the state's fisheries.

Source: Greenwire, Vol. 4, No. 220.

Wyoming Trout Study

An eight year Wyoming Game and Fish Department fisheries study initiated on the North Platte River (NPR) in 1992 represents the largest fisheries study ever initiated in Wyoming. The quality of trout fishing on the North Platte System has steadily declined since the 1970's. Factors cited include: 1) expansion of walleye throughout the system during the 1970's and 1980's and their impact on newly planted trout, 2) accumulation of sediments reducing both the quantity and quality of trout spawning habitat, and 3) increases in piscivorous bird numbers, mainly cormorants and pelicans, which feed on newly planted trout.

The study's goal is to maximize angler returns of hatchery-reared fish. The NPR is open to both downstream movement of fish through dams and upstream migration of fish into flowing



water above reservoirs. Thirty unique groups of trout are planted per year and Coded Wire Tags (CWT's) will be used to evaluate the success of trout stocking. Over 2 million trout have been adipose clipped and batch marked with CWT's to date. Marking is used to identify strain, size at stocking, and plant location. Over 4,000 tags have been recovered and decoded. An additional 10,000 are expected to be recovered in 1995 when a programmed creel survey of the entire NPR system is initiated.

rainbow trout

Six primary objectives have been prioritized:

1) Determine the contribution of hatchery fish to each fishery. For this objective all hatchery fish are marked with both an adipose clip and CWT. Preliminary data suggests that 96% of the trout standing crop in the reservoir fisheries are hatchery fish. The contribution of hatchery fish to the riverine systems has been low (<25%). The decision will be made to continue or cease river plants with the results of the 1995 creel survey.

2) Evaluate species and strain contribution/survival to each fishery. The Wyoming Game and Fish Department maintains several brood strains, from which eggs are taken to meet management planting requests. By batch marking trout with CWT's to identify strain and date of plant, the data can be used as input for survivor models to quantify annual survival rates. The creel survey will determine the strains which survive and contribute the best in a particular water. They can be targeted to that fishery; thus maximizing the use of hatchery space.

3) Determine contribution of drift and upstream movement to each fishery. By batch marking all trout to identify planting origin it will be possible to quantify the proportion of the harvested trout whether upstream or downstream in a given water. Owing to a drought in the intermountain West, movement of trout has been minimal. Over 96% of tag returns have been recovered in the water in which they were planted. This is critical information in evaluating how modification of a stocking program on a given water influences the quality of fishing both upstream or downstream of that water.

4) Evaluate size at stocking and survival/contribution to each reservoir fishery. Expansion of walleye populations in the NPR system over the last two decades led fisheries managers to dramatically alter the size of stocked trout. In three mainstream reservoirs, three million 3" rainbow trout were planted in 1975. Now, the stocking schedule calls for 400,000 catchable 8" fish to provide the best possible fishing in the face of walleye predation. To examine this predator-prey interaction, a size at stocking study in 1994 was initiated. Equal numbers of two strains and two sizes (6" verses 8") were planted into two reservoirs. The 1995 creel survey will allow an economic analysis of the trade-offs of planting 6" or 8" trout. Should 6" trout do well, the potential to increase reservoir plants by 75% at little additional cost may be realized.

5) Evaluate fish distribution methods. A 1994 study was begun to quantify the trade-offs of planting fish by barge versus truck. CWT's were used to mark lots, while a Global Positioning

System was used to determine planting coordinates. Three weeks after planting, gillnets and a purse seine were used to sample the newly planted fish. Coordinates of sampling locations were also recorded. Once read, the CWT's help determine the approximate distance individual fish traveled. Again, the creel study in 1995 will track distribution through tag returns.

walleye

6) Culture experimentation. A study was initiated in 1994 to assess if providing cover for trout throughout their hatchery life, would condition them to seek similar cover once released in the wild. Two lots of fish (covered vs uncovered) were batch marked with CWT's and released into the NPR below Gray Reef Dam. A University of Wyoming graduate student, overseeing a study to quantify loss of trout to piscivorous birds, has recovered some 300 tags from the gizzards of cormorants. One bird, examined shortly after planting, contained 90 tags! This data indicates that efforts to condition trout to seek cover were futile.

Contact: Daniel Yule, Wyoming Game and Fish Department, 3030 Energy Lane, Suite 100, Casper WY 82604 (307) 473-3415.

National Wetlands Inventory on the INTERNET

"All National Wetlands Inventory (NWI) digital wetlands data files are now available free over the Internet. Using anonymous ftp (file transfer protocol), users can connect to NWI's server at enterprise.nwi.fws.gov or at 192.189.43.33 and when connected, cd (change directory) to dlgdata and get the readme.dlg file. There are currently over 13,000 digital map files available.

As new maps are digitized, they will be added to the database. Separate text files in the maps directory contain listings of files recently added to the database (newadd.txt), and digitizing work currently in progress (inwork.txt)."

Contact: Craig Faanes (703) 358 2201 or FaanesCA on FWS-mail

Ecological Information Network

The Ecological Society of America (ESA) has recently updated and modified the Ecological Information Network (EIN) The EIN is a computerized database of over 3,000 scientists who will provide expert information on issues affecting domestic and international environmental quality. The EIN is a free service operating out of the ESA's Public Affairs Office in Washington, DC.

The EIN provides reporters and government officials with the contacts to answer specific questions about the effects of human activities on the environment. The scientific experts involved with the EIN, all of whom are members of the Ecological Society of America, conduct research, teach, or aid decision makers in universities, government agencies, industry, and conservation organizations. Major updates occur about every three years as the current members change or amend their areas of research.

To Access the EIN contact the Public Affairs Office of the Ecological Society of America. Staff will assist the caller to frame questions and help determine the direction of the search. The names, addresses, and phone numbers of the ecologists will then be phoned or mailed back to the inquirer. Some ecologists in the Network are available to serve as speakers on special panels, or to testify before Congressional committees.

Contact: Nadine Cavender, Ecological Society of America, 2010 Massachusetts Ave., NW, Suite 420, Washington, DC 20036, (202) 833-8773.

Upper Mississippi River Fish Poster

Friends of the Mississippi River has created a beautiful full color poster of 13 native fish species of the Upper Mississippi River. This 18" X 24" poster includes some of the more unusual ones like shovelnose sturgeon and paddlefish and some of the better known species like smallmouth bass and walleye. Suitable for framing, the poster price is $10.00 + tax + shipping= $11.50. Quantity discounts are available. Send a check for $11.50 to Friends of the Mississippi River, 26 East Exchange St., Suite 215, St. Paul, MN 55101, (612) 222-2193, FAX: (612) 222-6005.

Chinese Dams

Two Chinese dam collapsed in August 1975, killing "at least" 85,000 people and "possibly as many" as 230,000, but "the extent of the disaster was hidden from foreigners and the Chinese people," according to a new report by US-based Human Rights Watch/Asia. The report, "designed to cast doubt on the wisdom of building the Three Gorges Dam," found that two Soviet-designed dams in Henan collapsed after three typhoons struck between August 5-7, 1975, causing a "gigantic wall of water travelling at nearly 31 mph to cascade downward over the surrounding valleys and plains, obliterating virtually everything in its path".

The group "warned of ecological disaster" if Three Gorges goes forward and outlined concerns about the "arbitrary" detention of dam opponents, potential human rights abuses of workers, and "coerced" relocation of the area's residents. China's Ministry of Water has not responded to requests for more information, the group said.

Source: Greenwire, Vol. 4, No. 200

Russian Environmental "Nightmare"

A state-sanctioned study released 2-1-95 in Moscow says decades of negligence and years of economic instability have left Russia ecologically devastated. "There's no way to choose the worst environmental problem in Russia," said the director of the study, Alexei Yablokov, a prominent biologist at the Russian Academy of Sciences and a noted environmentalist. "It's a nightmare."

The report was commended by environmental activists from Greenpeace who have long clamored for international attention to Russia's ecological problems. The most widespread danger is the declining quality of drinking water, Yablokov said. Bacteria in Russia's rivers and lakes have increased dramatically in recent years, rendering 75% of the water unsafe for drinking.

Source: The Sturgeon Quarterly January, 1995 - Volume 3, No. 1

Meetings of Interest

May 1-3: Zebra Mussel Information and Monitoring Workshop and Western States Zebra Mussel Task Force Meeting, Denver Marriott Tech Center, Denver, CO. This workshop will provide participants with the latest zebra mussel information to assist regions west of the Mississippi River to prepare for the arrival, slow the spread, and mitigate the impacts of zebra mussels.

May 4-6: "Mississippi River Basin Conference, Crowne Plaza Hotel, Memphis, TN. This conference will provide the opportunity to join other citizens to discuss impacts on the river and how to improve its future management - for people and natural resources. Contact: Suzi Wilkins, Mississippi River Basin Alliance, Box 3878, St. Louis, MO 63122 (314) 822-4114.

May 14-18: Water Resources at Risk - 1995 Annual Meeting of the American Institute of Hydrology, Denver,CO. Contact James R. Kunkel, Advanced Sciences, Inc.,405 Urban Street, Suite 401, Lakewood, CO 80228. (303) 980-0036. FAX: (303) 980-1206. Purpose: describe issues, management strategies, and technologies in hydrology, hydrogeology, and mining hydrology.

May 15-17: "International River Basin Management for Sustainable Development", Kruger National Park, South Africa. Contact: Alan Vicory, Jr., International Program Committee, Ohio River Valley Water Sanitation Commission, 5735 Kellog Avenue, Cincinnati, OH 45228, (513) 231-7719.

May 21-24: "Fourth National Watershed Conference", Charleston Civic Center, Charleston, WV. The conference will take a comprehensive look at (1) Flood prevention while protecting natural resources, (2) On-farm and watershed-wide water quality protection, (3) Nonstructural flood control measures, and (4) Riparian corridor management and restoration. Contact: National Watershed Coalition, 9150 W. Jewell Ave., Suite 102, Lakewood, CO 80232, (303) 988-1810.

May 31-June 2: "East Coast Trout Management and Culture Workshop II", Penn State University, State College, PA. Contact Marty Marcinko, 450 Robinson Lane, Pennsylvania Fish Commission, Bellefonte, PA 16823, (814) 359-5223. Theme of the workshop is "Looking to the Future: How Can We Meet the Need?"

June 4-10: Solutions '95: A Congress & Exposition on Managing the Effects of Man 's Activities on Groundwater, Edmonton, Alberta. Contact: Allen Kerr, (403) 429-1472.

June 5-9: "Sustainable Forests: Integrating the Experience International Conference", Sault Ste. Marie, MI, and Sault Ste. Marie, Ont. Contact Joan Jaffit, Conference Manager, (705) 759-2554, FAX (705) 256-6156.

June 12-14: "Third Reservoir Fisheries Symposium", Chattanooga Marriott at the Convention Center, Chattanooga, TN. Contact Steve Miranda, Chair, Third Reservoir Fisheries Symposium, Mississippi Cooperative Fish and Wildlife Research Unit, P.O. Drawer BX, Mississippi State, MS 39762, FAX (601) 325-8726.

July 16-19: Interdisciplinary Conference on Animal Waste and the Land-Water Interface, Fayetteville, AR. Contact Patti Snodgrass, Arkansas Water Resource Center, 113 Ozark Hall University of Arkansas, Fayetteville, AR 72701. (501) 575-4403, FAX: (501) 575-3846. The purpose of the conference is to provide a forum for interdisciplinary, holistic discussion of animal waste, soil and water interactions.

September 14-16: Society for Ecological Restoration, Seattle, Washington. The 1995 Annual Meeting of the Society for Ecological Restoration will be held in Seattle, Washington, September 14-16, 1995. Restoration of ecosystem function and landscape patterns and processes will be addressed as well as the politics of restoration.

September 28-30: Watersheds '94 Expo. Bellevue, Washington. Contact Andrea Lindsay, U.S. Environmental Protection Agency WD-125, 1200 Sixth Ave., Seattle, WA 98101, (800) 424-4EPA.

October 16-18: "The Conservation and Management of Freshwater Mussels II: Initiatives for the Future", Embassy Suites Hotel, St. Louis, MO. Contact: Alan Buchanan, Missouri Dept. of Conservation, (314) 882-9880.

Agriculture.

H.R. 67 (Bereuter, R/NE) extends the Conservation Reserve Program for 10 years and the Wetlands Reserve Program for 5 years to protect valuable soil and water resources through long-term conservation easements.

Fish & Wildlife.

S. 191 (Hutchison, R/TX) and H.R. 490 (Smith, R/TX) amends the Endangered Species Act to ensure that private property rights are not infringed until adequate protection is afforded by reauthorization of the act by imposing a moratorium on new listings and critical habitat designations.

S. 455 (Kempthorne, R/ID) clarifies the procedures for consultation under the Endangered Species Act on management of federal lands.

S. 481 (Baucus, D/MT) limits expenditures required under the Endangered Species Act for the protection of fish and wildlife made by the Bonneville Power Administration that may be recovered from ratepayers.

S. 503 (Hutchison, R/TX) freezes listings and critical habitat designations under the Endangered Species Act. Approved by Senate Environment panel on March 14.

Forests

Senate Energy panel on March 1 concluded hearings on **S. 391** to provide for salvage logging to improve the health of national forest lands.

Senate Energy panel held oversight hearings March 8 to review federal forest management issues, focusing on the Forest Service's new administrative appeals process.

H.R 1089 (Cremeans, R/OH) ensures that acquisition of lands for inclusion in the National Forest System does not result in a loss of tax revenue to the affected county.

Government Affairs.

S. 1 (Kempthorne, R/ID) and **H.R. 5 (Clinger, R/PA)** a bill to curb the practice of imposing unfunded federal mandates on states and local governments. On Jan. 10, House Government Reform Committee approved **H.R. 5** and on Jan. 9. On March 14 by a 91-9 vote the Senate approved the conference report on **S 1.**

S. 169 (Grassley, R/IA) curbs the practice of imposing unfunded federal mandates on states and local governments.

HJ. Res. 27 (Franks, R/NJ) proposes a Constitutional amendment barring federal unfunded mandates to the states.

Senate Government Affairs Committee held a hearing Feb 22 on **S. 219** to establish a moratorium on federal regulatory rule-making actions.

Senate administrative oversight panel concluded hearings February 24 on **S. 343** to reform the federal regulatory process.

On February 24 by a 276-146 vote the House approved **H.R. 450** imposing a moratorium on federal rule-making actions including a two-year freeze on endangered species listings.

The House passed **H.R. 926** by a 415-15 vote. **H.R. 926 is** aimed at improving regulatory flexibility.

H.R. 1022 (Walker, R/PA) establishes risk assessment and cost benefit analysis procedures for major rules. It was passed by a 286-141 vote on February 28.

Mining

S. 504 (Bumpers, D/AR) amends the

Mining Law of 1872 to impose a royalty on mineral operations and reform the process for mineral development.

S. 506 (Craig, R/ID) amends the Mining Law of 1872 to impose a royalty on mineral operations and reform the process for mineral development.

Parks.

H.R. 260 (Hefley, R/CO) provides for the development of a plan and management review of the National Park System, and reforms the process for considering additions to the system. Hearings held February 23.

Joint Senate Energy and House Resources Committees held a hearing March 7 on the state of the national park system.

Public Lands.

S. 93 (Hatfield, R/OR) a bill to amend the Federal Land Policy and Management Act to provide for ecosystem management on public lands.

H.R. 91 (Sensenbrenner, R/WI) prohibits the acquisition of land or waters for the National Wildlife Refuge System if wildlife refuge revenue sharing payments have not been made for the preceding year.

H. Res. 25 (Orton, D/UT) a resolution requesting that the Interior Secretary withdraw proposed regulations concerning right of way granted under section 2477 of the revised statutes.

S. 193 (Campbell, D/CO) establishes a forage fee formula on lands under the jurisdiction of the Agriculture and Interior departments.

The House Resources Committee held a hearing March 2 on a General Accounting Office report, "Trends in Federal Land Ownership and Management."

S. 449 (Simon, D/IL) establishes the Midewin National Tallgrass Prairie in Illinois.

S. 518 (Thomas, R/WY) limits acquisition by the U.S. in states where 25% or more of the land is owned by the United States.

House Resources Committee held a hearing on **H.R. 1077**, authorizing the Bureau of Land Management.

Recreation.

H.R. 104 (Emerson, R/MO) rescinds the fee required for the use of public recreation areas at lakes and reservoirs under the jurisdiction of the Army Corps of Engineers.

Refuges.

H.R. 1112 (Brewster, R/OK) transfers the Tishomingo National Wildlife Refuge to the state of Oklahoma.

Takings.

S. 135 (Hatch, R/UT) a bill to establish a uniform federal process for protecting private property rights.

S. 145 (Gramm, R/TX) a bill to provide for the protection of private property rights.

H.R. 9 (Archer, R/TX) a bill to create jobs, enhance wages, strengthen private property rights and reduce the power of the federal government.

On February 16, the House Judiciary Committee approved **H.R. 925**, the Private Property Protection Act, and **H.R. 926** the Regulatory Relief Act.

H.R. 971 (Wyden, D/OR) ensures that homeowners have access to information and opportunities to comment on actions that may decrease the value of their home and establishes a compensation program for development that produces pollution or otherwise impacts home values.

Water and Wetlands.

S. 49 (Stevens, R/AK) a bill to amend the Clean Water Act to provide for exemptions to wetlands regulations and the protection of property rights in Alaska.

H.R. 226 (Dingell, D/MI) amends the Safe Drinking Water Act to assure the safety of public water systems.

H.R. 198 (Smith, R/MI) amends the Food Security Act of 1985 to permit the conversion of wetlands that are one acre or less in size.

H.R. 961 (Shuster, R/PA) an omnibus bill designed to reform and reauthorize the Clean Water Act.

H.R. 1132 (Oberstar, D/MN) amends the Clean Water Act to provide for improved non-point source pollution control. House Transportation panel held hearings on the Clean Water Act on February 16, 21, 24, March 7 and 9.

Source: Land Letter STATUS REPORT, March 15,1995, Vol. 14, No. 8.

Mississippi Interstate Cooperative Resource Association
608 East Cherry
Columbia, MO 65201

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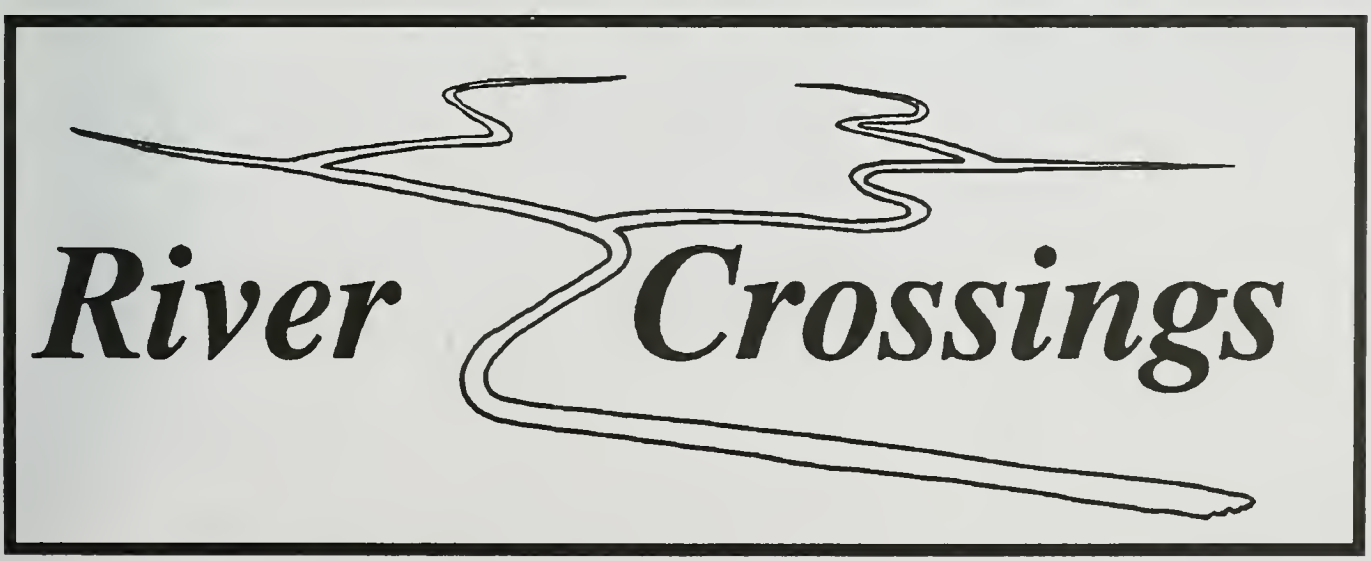

River Crossings

Volume 4 | May/June 1995 | Number 3

Clarks Fork Named Most Endangered River

The Clarks Fork of the Yellowstone River, in Montana and Wyoming, tops American Rivers list of most endangered rivers for the second straight year. The Clarks Fork and Greater Yellowstone ecosystem is endangered by a proposed gold mine, planned for development 2.5 miles north of Yellowstone National Park.

The $500 million mine poses "unprecedented and catastrophic threats to the world-class ecological, scenic, and fish and wildlife resources" of the region, the group said. The proposed "New World" mine has come under fire from a number of conservation organizations and lawmakers because of its size and proximity to America's first national park.

On January 13, American Rivers and Trout Unlimited filed a legal challenge to development of the mine with Interior Secretary Bruce Babbitt. The action contests the mining company's application to purchase 27 key acres of public land for $135, pursuant to the 1872 Mining Law, and asks Babbitt to deny the company's purchase application (see next article).

American Rivers

The remaining 9 most endangered rivers on the American Rivers list are the Los Angeles River in California; the Columbia and Snake River system in Washington, Idaho and Oregon; the Animae River in Colorado; the Missouri River, which flows through seven states; the Kansas River in Kansas; the Mississippi River (10 states), the Cheat River in West Virginia; the Penobscot River in Maine; and the Thorne River in Alaska.

The Mississippi and Missouri rivers made the endangered list because of pollution from farm chemicals and government projects to aid navigation. The report questioned the Army Corps of Engineers' plans to expand the lock and dam system and to raise the height of levees along the Mississippi. The report said public works along the

INSIDE THIS ISSUE

Missouri River have eliminated much of the fish and wildlife habitat. It recommended phasing out commercial navigation and having the government buy flood-prone lands from people interested in selling.

Listing of the Kansas River was called a "wake-up" call to Kansans. Enviros say a proposal to dredge for sand between Topeka and Lawrence would damage "one of the few remaining pristine sections" of the river. The Jefferson County Commission has tabled any decision on that application, but the report also said the river has high levels of atrazine, a herbicide commonly used by farmers.

Acid mine drainage and proposed dam-building were among the reasons for listing West Virginia's Cheat River as endangered. Although the Cheat has suffered from acid mine drainage for decades, recent spills from mines along Muddy Creek in Preston County have created "stinking, orange-tinted, recreation-threatening water that stings the skin and stains river rocks." In addition, the Army Corps of Engineers is "contemplating" a mainstem dam near Rowlesburg and possible flood-control impoundments on two tributaries, Shavers Fork and Dry Fork. The state Division of Environmental Protection and the U.S. Office of Surface Mining are "reportedly contemplating demonstration reclamation projects" in the watershed.

"American Rivers is sounding an alert to the public about the severity of imperilment facing these and many other rivers, so that significant steps can be taken to protect them," said Rebecca Wodder, the group's president. "While there have been real accomplishments in river conservation since the first Earth Day in 1970, our rivers are in poor ecological condition."

Development pressures, dam projects, agricultural runoff and industrial pollution are to blame for the endangered status of the other rivers named. The 55-page report also lists 20 other rivers around the country that the group considers highly threatened.

Source: Land Letter, Vol. 14, No. 12 and Greenwire, Vol. 4, No. 239

American Rivers Challenges Yellowstone Mine

American Rivers filed a major challenge to the proposed "New World Mine" with Secretary of the Interior Bruce Babbitt on January 13th. Speaking at a Washington, D.C., press conference, American Rivers' President Rebecca Wodder said, "This mine poses unprecedented and cataclysmic threats to the world-class resources of the greater Yellowstone ecosystem." Trout Unlimited and John Graham, professional guide and proprietor of Castle Creek Outfitters in Silver Gate, MT, joined in the challenge of Crown Butte's patent application.

The legal challenge requests Secretary Babbitt to reject the application of Crown Butte Mines, Inc., to use the 1872 Mining Law to purchase 27 acres of public land that are now a part of the Gallatin National Forest. Crown Butte's patent application is pending before the Bureau of Land Management's state office in Billings, MT. Nevertheless, Babbitt has jurisdiction to review this application directly.

American Rivers' challenge rests

River Crossings

Published by

Mississippi Interstate Cooperative Resource Association
(MICRA)
608 East Cherry
Columbia, MO 65201

MICRA Chairman
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MICRA Coordinator/Executive Secretary and Newsletter Editor
Jerry L. Rasmussen, U.S. Fish & Wildlife Service, Columbia, Missouri

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River Crossings is a mechanism for communication, information transfer, and coordination between agencies, groups and persons responsible for and/or interested in preserving and protecting the aquatic resources of the Mississippi River Drainage Basin through improved communication and management. Information provided by the newsletter, or opinions expressed in it by contributing authors are provided in the spirit of "open communication", and do not necessarily reflect the position of MICRA or any of its member States or Entities. Any comments related to "River Crossings" should be directed to the MICRA Chairman.

squarely upon the 1872 Mining Law and a long history of judicial interpretation of that law. Although Crown Butte has discovered gold in the mountains upstream of the world's first national park, American Rivers claims that it has not discovered a "valuable mineral deposit" as required by the mining laws, because the environmental costs of the mine outweigh the short-term profits that Crown Butte hopes to enjoy. If a valuable mineral has not been discovered, the application to purchase land under the mining laws fails, as does the underlying mining claim.

Because the 1872 mining law does not define the phrase "valuable mineral deposit," several tests have been developed to apply the law. Under each of these tests, American Rivers claims, Crown Butte cannot establish that it has discovered a valuable mineral deposit:
(1) The lands that will be affected by the mine are critical to the health of both the local ecology and the greater Yellowstone ecosystem, and their aesthetic value is incalculable;
(2) The proposed mine also interferes with more readily measured non-mining values, such as the site's recreational, scientific, and commercial value; and
(3) The harms that can be anticipated from the ultimate, inevitable failure of the impoundment and the release of acid mine drainage will also far exceed any profit that might reasonably be anticipated.

Federal agencies "will soon issue" a draft environmental impact statement for the project. Crown Butte Mines Inc. has spent $32 million in hopes of recovering what its president, Joseph Baylis, expects to be $550 million in gold. "Some 1,200 to 1,800 tons of ore would be dug from inside Henderson Mountain each day." About half the mine tailings (crushed rock) would be mixed with cement and put back in the mine holes. The rest would be mixed with water and piped to a plastic-lined dump that eventually would "cover 72 acres and be some nine to ten stories high." The area would be revegetated when the mining operation is complete. Crown Butte, a Montana corporation completely owned by Canadian corporations, including the multibllion-dollar, multinational conglomerate Noranda, Inc., would pay the U.S. taxpayer a total of **only $135 for these lands**.

Last September 26, Secretary Babbitt said that the mine "poses some ominous and very serious issues," and there should be a "national debate" about the

"advisability" of putting the mine at the headwaters of the Yellowstone River or its tributary, the Clarks Fork. By far the greatest environmental threat is Crown Butte's proposal to develop a never-before-constructed "subaqueous containment" impoundment to store 5.5 million tons of acid-generating waste rock. The impoundment, which is essentially a toxic reservoir, would cover approximately 70 acres and stand 10 stories tall. The company proposes also to build a water treatment facility to remove toxins from water that might leak from the reservoir. The water treatment facility must work for millennia.

The chief of the Environmental Protection Agency's Mining Waste Section has said he was "unaware of any studies evaluating how a tailings pond could be maintained to ensure its structural integrity forever - It is my opinion that [underwater] disposal of tailings at New World may present a potentially significant threat to human health and the environment."

In February, American Rivers acted to stop a streambed mining project on the Yellowstone River, north of Yellowstone National Park, in Montana's Paradise Valley. A miner has proposed using a suction dredge to mine 1.6 miles of riverbed of the Yellowstone River. In written comments filed on February 7 with the Park County, MT, Conservation District, American Rivers concurred with the conclusion of the Montana Department of Fish, Wildlife and Parks that the permit should be denied.

The Yellowstone River is a world class trout fishery that also supports important recreational uses. In essence, suction dredges are like vacuum cleaners. The miner powers up a gasoline engine and proceeds to vacuum up the streambed, sometimes down to bedrock, destroying in the process all habitat that may exist for trout spawning. Suction dredging also creates downstream turbidity that, among other things, may interfere with foraging by fishes.

Source: American Rivers, Spring 1995 and Greenwire, Vol. 5, No. 17

The Floods of 1995

The floods of 1995; on-going on the Missouri, Illinois, and middle Mississippi rivers; have nearly reached the levels of the Great 1993 floods. To make matters worse, the problem may not be over, as the ground is saturated, more rain is predicted across the basin, Missouri River mainstem

reservoirs are full, and heavy snowpack remains in the west.

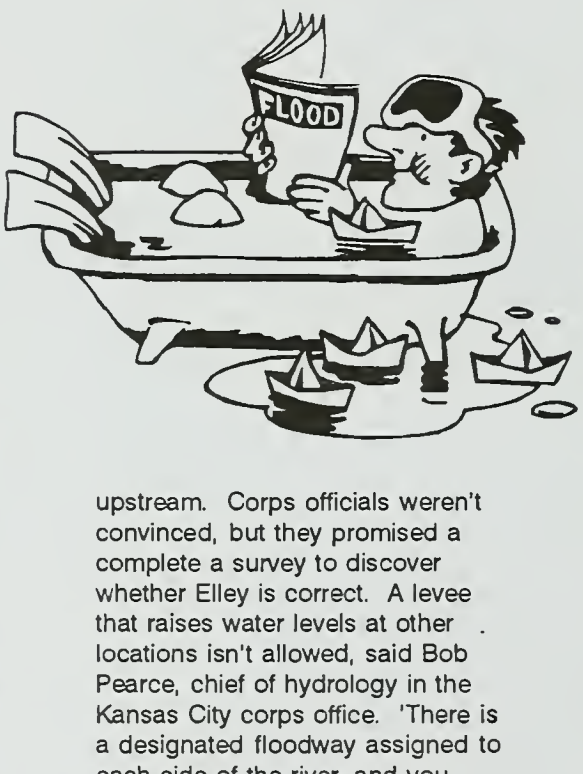
The effect of the flood has been devastating to those, who once again, had to abandon their homes in the face of rapidly rising waters. The effect on large river fisheries is again expected to be positive; perhaps more positive than in 1993 because the floods came earlier this year, while many additional fish species were still spawning.

Many of the levees rebuilt in the aftermath of the 1993 flood have broken again, often in the same/or close to the same place as before. The latter was predicted by scientists (geologists and geomorphologists) who worked on the Scientific Assessment and Strategy Team (SAST) assigned to assess the science related to flood issues for the White House in 1994. Scientists have said that many of these levees should never be placed where they are (i.e. on sand, in active erosion zones), because they will continue to fail.

The same landowners who received major federal subsidies to rebuild their levees in 1994 seem to be poised with their Congressmen and the Corps of Engineers in a frantic effort to obtain funds to rebuild all the levees again as fast as possible (some say before environmental interests have a chance to organize). This time, however, some of the public and some public officials seem to be getting the message. More and more folks are convinced that their flooding problems are created by the levees built by others to protect agricultural fields.

One such concern has been raised by the mayor of the small town of Lupus, Missouri, an historic river town located just downstream from Interstate 70, near the center of the state. Lupus Mayor Doug Elley described the problem his town has with the "Plowboy Bend" levee to the Corps of Engineers and the press during a recent Corp's sponsored public relations and river inspection trip.

According to a Columbia (MO) Tribune article: "As Plowboy Bend approached, the merit in Elley's metaphor became apparent — the rebuilt levee stood far above any other embankment seen during the previous hour of the trip. Ron Janak, an assistant chief engineer for the Corps, acknowledged that the levee, which was rebuilt with corps funding on an 80-20 matching basis, was higher than it had been before the flood. 'It is anywhere from 2 to 3 feet higher in the one area where it initially breached,' he said. Elley said that extra height, along with bluffs on the south side of the river, would constrict water flows during floods and increase the troubles high water causes for his town



upstream. Corps officials weren't convinced, but they promised a complete a survey to discover whether Elley is correct. A levee that raises water levels at other locations isn't allowed, said Bob Pearce, chief of hydrology in the Kansas City corps office. 'There is a designated floodway assigned to each side of the river, and you can't encroach on it,' Pearce said."

Mayor Elley first raised the issue to the Corps of Engineers in a letter to Colonel Richard H. Goring District Engineer for the Kansas City District. In his letter, Elley states that over the past few months "it slowly began to dawn on the citizens of Lupus that the Plowboy Bend, Corps-sponsored levee reconstruction resulted in much greater height and degree of protection than existed before the Flood of 1993."

Elley's letter raises two concerns: "1) the most immediate being my fear as Mayor of Lupus, for the safety and welfare of our town and the 23 homes and 3 businesses that are here, two miles upstream from the megalevee that was reconstructed; and (2) the other being a broader concern for losses (historic, residential, commercial, habitat & biodiversity) that will be incurred basin-wide in the Missouri River corridor if levee reconstruction was allowed to violate Public Law 84-99 elsewhere if levees were rebuilt to much higher-than-before specifications."

Elley continues:

"1) When this levee (Plowboy) was found ineligible for repair under PL 84-99 in October 1991, and the parties were given until Oct. 31. 1992, to correct the deficiencies....did they? I do not see it in the public record."

"2) Why did the "Finding of No Significant Impact" statement signed by you on February 22, 1994 say the levee would be restored to pre-flood conditions when its height and cross-section (footprint) is actually now far greater than before? Your 'Project Information Report' states on page 2 that the 40A Levee was increased in height in the early 1990's to provide a 25-year level of protection, hence functioning at a Boonville gage reading of 32.5 feet. My own survey found this levee to have been raised last summer by the Corps to an elevation of 582 feet (Boonville gage = 36.5'), or above the 100-year flood elevation! Also, how could all 'social and economic factors potentially affected' by this levee have been considered, when our town only 2 miles upstream

was never informed or consulted? Now we find our City Hall 5 feet below the water level that this new and much larger levee can hold back against us."

"3) How was it that this levee failed the first benefit-cost analysis, but then upon a second refiguring, passed? Did the abandoned hunter's shack-of-a house trailer that was allowed a $25,000 evaluation help? (page 10 of the economic analysis)...or maybe it was the 17.6 miles of private tractor trails called 'local roads' and valued at $1,760,000 that swung the balance?"

"Can those economic values be right?"

"4) Why was the borrow area at the north end done on the riverward side of the levee, leaving only a few of the large trees with their roof crowns exposed to the air from the excavation?...(contrary to leaving the 30'-wide buffer specified in your 'Field Survey Report'.)"

"For those of us who stand to suffer flooding worse than ever before due to increasing levee heights around us, this monster-levee reconstruction is frightening to say the least", said Elley. "Furthermore we find it hard to understand how $1.5 million can be found to protect corn and soybeans, while a town two miles away is denied a $180,000 grant for Hazard Mitigation via a Community Development Block Grant (CDBG). We would have floodproofed our six drinking water wells and elevated one-half of our 23 homes above the base flood elevation. Instead these CDBG funds were sent to neighboring counties (Howard, Cole, and Boone) to build levees protecting private agricultural investments. I can only surmise that big fields must mean more to our politicians than small towns", Elley said.

"Aside from this curious expenditure of taxpayers dollars, please be most aware that our real fear is that of the height of this new levee. The floor of our first home to flood goes under water when the Boonville, MO, stage reaches 30 ft", Elley said. "We have always been relieved to know that levees up and down the Missouri begin to give-way at that stage. Certainly you too must know that as the river rises to 31 and 32 feet in our area most of the levees break or are topped, taking the pressure of the rise off of us. This has been the way flooding, and our relief from it, has worked in the past. If you allow levee reconstruction up and down the corridor to violate this effect–as well as Public Law 84-99--then we have no hope", Elley said.

Elley concludes, "I would have thought lessons would have been learned from the Great Flood of '93, and that our government would start to return the floodplain to the river to whom it belongs, rather than instead increasing the stakes with many more millions of dollars in this futile battle with nature. Did we not learn that both water quality and lower flood heights depend on the restoration of the water-filtering and water-spreading effect that the more natural riparian floodplains would provide? These new monster-levees raise many questions."

Despite concerns like this, the Corps continues to consider requests to raise levees. One is a levee near St. Joe and the another is the Monarch levee at Chesterfield. The Monarch levee currently protects against the 100 year frequency flood; the Corps is studying the City of Chesterfield's request to raise it to protect against the 500 year frequency flood. If it had been that high in 1993, the Corps said, crests at St. Charles would have been 0.8 feet higher, and would have taken out the city's sewage treatment plant.

In nearby St. Louis the issue also remains a hot topic. Neil Svetanics is a fire chief, not a hydrologist. But he knows what 6 more feet of water would have meant to St. Louis during the Flood of '93. "It would have been disastrous," said Svetanics, who helped direct the city's flood-fighting efforts. The Army Corps of Engineers has sent Missouri Governor Mel Carnahan a letter asking Missouri's position on raising seven levees south of St. Louis on the Mississippi River. Six of the levees are in Illinois. The Corps' own studies show that the flood crest in St. Louis in 1993 would have been 6 feet higher if those seven levees already had been raised.

"We'd have been wet," said Deputy Street Commissioner Todd Waelterman. "We'd have lost everything we were trying to protect, including downtown." The Corps says the projects are still "under consideration," despite a flurry of government reports that said building bigger, better levees only constricted rivers—often forcing the water into urban areas

One of the levees that may be raised protects Phil Bueckman's farm in Missouri's Perry County. He used to live in a 100-year-old farmhouse near the Bois Brule levee, but it was washed out by the Flood of '93. Bueckman, 41, is single and now rents a home out of the flood plain, but he still farms there. Bueckman disputes the Corps' figures that show increases in flood crests at St. Louis if levees are raised.

David Leake, chief of the Corps' planning division in St. Louis, noted that the Corps is seeking

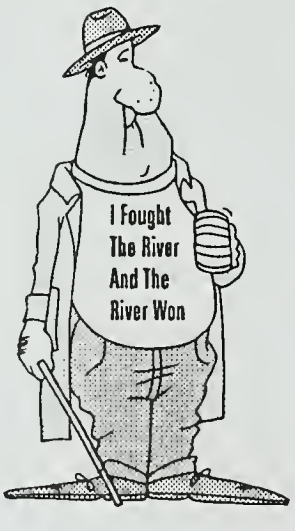
funds for only three of the seven projects. All three had been proposed before the 1993 floods. He said the preliminary work had been done before the studies on crests. Doing all seven would mean major flooding problems for unprotected river cities like Festus, Crystal City, and Kimmswick. Those cities, a Corps economist says, might "cease to exist." The seven levees now guard against the 50 year frequency flood, the improvements would raise them to protect against the 100 year flood.

Governor Carnahan hasn't responded to the Corps request for Missouri's response to the projects. He referred the letter to Buck Katt of the State Emergency Management Agency. Katt helped direct the state's flood study, which mirrored the conclusions of the White House task force, recommending a uniform height for agricultural levees to protect against a 25-year flood. "We have everything from a sweet potato ridge to 100-year levees," said Katt. Higher levees would be notched so that when a major flood hits, the water would flow into farm fields. Keeping the levees uniform prevents "levee wars" in which one property owner on the river tries to build higher than his neighbor. Improving levees encourages building on the flood plain, increasing damages when another record flood comes along. "A person has to accept the responsibility," Katt said. "If they weren't getting a subsidy, they wouldn't farm that marginal land."

The three projects expected to move forward are:
- The levee that would protect Prairie du Rocher, Modoc and Roots and 16,570 acres of farmland in Southern Illinois. The project would cost $803,400.
- The Bois Brule levee in Missouri near McBride. The project would cost $9.5 million, and protect 26,000 acres of farmland, 16 residences, two businesses and part of Route 51.
- The Grand Tower and adjacent Degognia-Fountain Bluff levees in far Southern Illinois. The costs have not been determined.

The government would pay 75% of the cost of improving these levees, with the local levee district paying the rest.

If we raise these levees and rebuild those that failed both in 1993 and 1995, it would seem that we have learned little from the $14-16 billion taxpayers spent for the 1993 flood recovery. The following observations seem to indicate that, in fact, we have learned little from the recent past:
1) Some state officials have blamed the Corps for the 1995 flood because too much water was released from Missouri River mainstem reservoirs in Montana and the Dakotas;
2) Some Congressmen blame environmentalists and the Clinton Administration because they didn't let them rebuild levees high enough in 1994;
3) Some floodplain residents blame the government for the flood because this wasn't suppose to occur for another 100 to 500 years;



4) Some floodplain residents see nothing wrong with collecting more disaster benefits. They see it as their right to live in the floodplain, no one should be able to tell them what to do, and they are entitled to flood benefits because hurricane victims get far more than they do;
5) Some news casters continue to say that the river destroys floodplain farmland by replacing it with sand.

And so the beat goes on! How much will the flood of 1995 cost? What will we have to give up to pay for it? **We have to remember that disaster payments go against the deficit not the budget!** So we have to balance flood disaster payments against child care, medicare, and healthcare benefits in order to gain control of the deficit.

Source: St. Louis Post-Dispatch, 5-7-95 and Columbia Tribune, 5-11-95

Floodplain Management Policy Update

At a recent meeting of the Coalition to Restore Aquatic Ecosystems (CRAE), Brigadier General Gerald Galloway gave an update of floodplain policy reform following the Clinton Administration's review of "Sharing the Challenge", the report of the Interagency Floodplain Management Review Committee which General Galloway chaired. The CRAE meeting was held at the World Wildlife Fund's office in Washington, D.C.

General Galloway said that the nation had already experienced a significant change in floodplain management policy during the floods of 1993, as evidenced by the relocation of over 8,000 homes from the floodplain. He said he is hopeful that several more of the report's major recommendations will be implemented. These include establishment of a federal water resources coordinating body, passage of a Floodplain Management Act, issuance of a new Executive Order on floodplain management, and revision of the Principles and Guidelines.

He mentioned a need to move ahead on restoration options, stating that advocates of structural flood control options are generally more vocal and well-organized than proponents of environmentally sound alternatives. He said that

efforts to pass the Water Resources Development Act fell through last year largely because of controversy over proposed floodplain management policy provisions. These provisions, many of which were attributed to the report, suffered from a backlash generated by misleading press. Despite polarization over policy occurring in Washington, communities in California and elsewhere are actively seeking new approaches to flood damage reduction.

General Galloway also spoke about the Clinton Administration's proposed Corps of Engineers budget. This proposal would eliminate the Corps' local flood control mission by restricting the agency's activities to areas where 50% of the stormwater originates in another state. The proposal would also require a 2:1 benefit/cost ratio and a 75% local cost share. General Galloway speculated that the new benefit/cost ratio requirement might eliminate federal involvement from many restoration projects.

Forester Einarsen, Chief of the Corps' Office of Environmental Policy, and Harry Shoudy (both in attendance) said that the Corps is very interested in pursuing alternatives to structural approaches.

Floodplain Restoration in the Netherlands

Girard Litjens, under contract to World Wildlife Fund (WWF) in the Netherlands, gave a presentation (at the Coalition to Restore Aquatic Ecosystems reported on above) of floodway restoration work occurring on the Rhine delta.

Litjens said that WWF was realizing a mixture of environmental and economic objectives in the distributaries of the Rhine by asking brick companies to mine clay from the floodplains in patterns that approximate historic secondary river channels. These floodways are created between low summer dikes adjacent to the river channel and larger winter dikes that protect farms and fields from voluminous winter flood events. The summer dikes, which protect farm fields between the larger dikes from flooding during the growing season, are breached after the farmland has been purchased for conversion to a nature preserve.

Commodities are overproduced in the Netherlands, and small farms are being consolidated. Many older farmers want to sell their land either because they have no heirs or because their families are relocating in the cities and prefer a cash inheritance to land. Political organizations representing farmers oppose such acquisition because it decreases their constituent base.

Re-establishment of secondary channels helps to balance erosion and sedimentation in the channel. Channelization of the Rhine and its distributaries has led to river bottom deepening and lowering of adjacent groundwater tables. Creation of secondary channels decreases main channel flow velocity and allows sediments to redeposit, raising the bottom to its pre-channelization level. By removing the clay layer (formed as sediment-laden water spilled over the summer dikes during floods and dropped sediments out of suspension) from the floodplain, the spongy, alluvial soils are exposed and the capacity of the floodplain to soak up water is greatly increased.

Floodplain forests spontaneously appear on the nature reserve areas created on river islands. These forests increase primary production and help to restore the delta's fisheries. In order to prevent excessive channel roughness from substantially reducing flood damage reduction benefits of the restoration projects, WWF-Netherlands reintroduces native grazers, such as wild horses and cattle. These animals maintain the nature reserves in a savanna-like condition. Other native wildlife have returned in great numbers to restored areas. The availability of nature reserves for recreation has made these restoration efforts enormously popular with the public.

During this past winter's Rhine River floods, the government evacuated 200,000 floodplain inhabitants. Rhine River Basin floods have been increasing in frequency and severity over the past few years, largely because of rapid urbanization in the watershed. The Mers River has overflowed four times in the past two years.

Dam Fight on Big Sandy River

American Rivers is leading efforts to oppose construction of a $110 million dam on the Russell Fork of the Big Sandy River in Virginia and Kentucky, raising concerns that the Army Corps of Engineers' dam offers limited flood protection in exchange for heavy environmental costs.

American Rivers, the Environmental Defense Fund, and the American Whitewater Affiliation urged the Corps to reconsider non-structural alternatives, elevating and floodproofing homes and businesses, voluntary relocation, and acquisition from willing sellers to reduce project costs and protect the environment.

The project, which even the Corps admits is economically unjustified, is being proposed at the same time that the Clinton Administration and Congress are considering sharp cuts in the Corps' $500 million federal dam and levee-building program. The planned $110 million dam may be affected by these proposed policy changes.

The overall project, which includes

some non-structural alternatives like relocation and has a total cost of nearly $700 million, has a benefit-cost ratio of less than 1-to-1, rather than the proposed 2-to-1 ratio, but Congress in 1981 ordered the Corps to proceed at any cost!

Source: American Rivers, Spring 1995

Missouri River Master Manual

Colonel Michael Thuss, Missouri River Division Engineer, informed state governors on June 5th that further study is needed before any revision is made to the Missouri River Master Manual. The Master Manual is the document the Corps of Engineers follows in setting releases from the Missouri River mainstem reservoirs.

"I believe that further Master Manual study is necessary to fully determine the impacts of a potential change in the water control plan to: interior drainage and groundwater behind levees; Missouri and Mississippi River navigation; and Missouri River native fish. I believe that we should re-evaluate the alternatives presented in the Draft EIS for the Missouri River Master Water control Manual Review and Update to address the public comments...The RDEIS (Revised Draft EIS) should be available for public comment in early 1997", Thuss said.

"...Therefore, I recommended that together we develop a process to address these issues. The collaborative effort would accommodate input from the states, tribes, Federal agencies, economic and environmental interest groups, and the general public on both the operation (Master Manual), and non-operational issues."

Earlier the Corps came out with recommended changes to the Master Manual that would address some of the Missouri River's ecological problems related to federally endangered species. These recommended changes were opposed, primarily by Missouri, who was also able to orchestrate additional concern among downstream Mississippi River states who became convinced that changes in Missouri River flows would effect the Mississippi River navigation project. The Corps of Engineers has said that their recommended changes would have little effect on the lower Missouri (below Kansas City), let alone the Mississippi. Add to this Missouri's concern that the Indian Tribal claims to water are going to dry the river up, and the Corps of Engineers has their hands full.

It would seem that the Corps needs to bring everyone together under a major interactive "comprehensive master planning" effort, much as they did in the late 1970's and early 1980's on the Upper Mississippi when the conflict over construction of Lock and Dam 26 was settled.

MICRA Paddlefish Survey

This spring biologists from Arkansas, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Minnesota, Mississippi, Missouri, Nebraska, Ohio, Pennsylvania, South Dakota, Tennessee, Texas, West Virginia, and Wisconsin took to the field and to the hatchery to begin marking paddlefish.

Each state is attempting to catch and mark up to 300 adult paddlefish in the field, and all paddlefish released from hatcheries across the basin. By the end of the year thousands of adult and hatchery stocked paddlefish will be wearing (in their rostrum) a small coded wire micro-tag (invisible to the naked eye).

Fishermen are being asked to participate in the recovery of these tags by turning entire rostrums in at designated collection points – usually local, participating bait and tackle shops. Data will be collected from both marked and unmarked rostrums to calculate accurate estimates of stock size and interstate movements of these ancient fish.

Some tagged fish have already been recovered by both biologists and fishermen. A reward system is being used to encourage fisherman participation. Any fisherman recovering a tagged paddlefish will be eligible for a prize drawing at the end of the year.

Jackie Oven, Tennessee Wildlife Resources Agency-Nashville, trained all the biologists in tagging procedures and is coordinating tagging and recovery operations. Kim Graham, Missouri Department of Conservation-Columbia, is also overseeing the multi-year project. For further information contact the MICRA office.

Montana/North Dakota Paddlefish Management Plan

This 46 page plan was developed as a cooperative venture between the North Dakota Game & Fish Department, Montana Department of Fish, Wildlife & Parks, and the University of Idaho. It reviews life history, ecology, management, and status of the paddlefish stocks inhabiting North Dakota and

Montana, and outlines a plan for cooperative management of paddlefish in Montana and North Dakota, in consultation with federal and tribal agencies.

The goals of the paddlefish plan include providing for an orderly and sustainable recreational harvest, providing a basis for cooperative interstate management, facilitating data collection for stock assessments, conducting relevant research, protecting and improving habitat quality in the rivers and reservoirs, defining the role of artificial propagation, and increasing public awareness.

paddlefish

A key component of the plan is the development of an age structure model with yield forecasting capabilities based on indices of abundance of young-of-the-year, yearling, and early-recruited paddlefish. Other objectives are to increase knowledge of paddlefish population sizes and harvest rates, increase knowledge of paddlefish ecology and habitat requirements, maintain and improve habitat quality, develop a standardized data collection system, design and implement an experimental paddlefish stocking plan, establish the basis for a rational harvest quota, and expand information efforts on paddlefish.

The document titled, "Management Plan For The Paddlefish Stocks in the Yellowstone River, Upper Missouri River, and Lake Sakakawea" was prepared by Dennis L. Scarnecchia, Department of Fish and Wildlife Resources, University of Idaho, Moscow, ID 83843, (208) 885-5981; Phillip A. Stewart, Montana Department of Fish, Wildlife and Parks, P.O. Box 1630, Miles City, MT 59330, (406) 232-4365; and L. Fred Ryckman, North Dakota Game and Fish Department, P.O. Box 2476, Williston, ND 58802-2476, (701) 774-4320. Copies can be obtained from the authors.

Alabama Sturgeon Caught

Two rare Alabama sturgeon (*Scaphirhynchus albus*), one caught by fishermen on April 18th and a second by U.S. Fish and Wildlife Service biologists on May 19th, "could plunge the Clinton Administration back into a political fight with southern politicians." The capture brings to three the total number of sturgeon caught since December 1993.

The Alabama sturgeon has been the focus of "a raging battle" since June 1993 when government officials proposed to list it as endangered. Alabama lawmakers fought the proposed listing, arguing that the fish had not been caught since 1985 because they are already extinct.

Interior Secretary Bruce Babbitt conceded, and withdrew the listing in December 1994, citing lack of evidence that it still exists. Enviros wanted the fish listed, while Alabama politicians say a listing could threaten 20,000 jobs and $11.3 billion in river commerce.

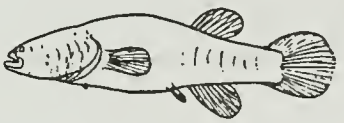
shovelnose sturgeon

The U.S. Fish and Wildlife Service now plans to conduct genetics tests on blood and tissue samples to determine if the fish are really Alabama sturgeon. It is "doubtful", however, that such tests will quell the controversy. There is considerable debate as to whether the Alabama sturgeon is a separate species" from the more "abundant" shovelnose sturgeon (*Scaphirhynchus platorhynchus*). The catch comes as Congress and the White House continue to debate the budget, including a provision barring the U.S. Fish and Wildlife Service from continuing its search for the sturgeon. The president recently signed legislation imposing a six-month moratorium on listing new endangered species.

Source: Greenwire, Vol. 4, No. 241, and Vol. 5, No. 20

Ozark Cavefish Genetics

Two genetically-distinct lineages of the Ozark cavefish (*Amblyopsis rosae)* have been characterized using mitochondrial DNA (mtDNA) nucleotide sequence data and phylogenetic analyses. The identification of genetically-distinct lineages of *A. rosae* should have a direct and immediate effect on their management in time and space.



Ozark cavefish

The amount of sequence variation observed between *A. rosae* allied to either the White River drainage or the Middle Arkansas River drainage is significant, approximately 6%. To place the magnitude of intraspecific divergence among these *A. rosae* clades in a proper context, it has been established that *A. rosae* are 18% diverged (percent sequence divergence) relative to all remaining species in the family (excluding the Alabama cavefish *Speoplatyrhinus poulsoni*).

Additionally, there is no more than 6% sequence divergence distinguishing any of the remaining interspecific comparisons within the family Amblyopsidae. From an ecological perspective, the two

clades of *A. rosae* described have been reproductively isolated from one another for approximately 1.5 million years; as long as any of the remaining interspecific isolations.

The implication is clear: there are at least two genealogically distinct lineages of *A. rosae* inhabiting the Springfield Plateau, each requiring independent management. From a taxonomic standpoint, significant effort should be made by state agencies to split *A. rosae*, taxonomically, into two subspecies: the White River drainage endemic (*A. rosae whitae*), and the Middle Arkansas River drainage endemic (*A. rosae arkansasus*).

Source: Bergstrom, D.E. Jr, D.B. Noltie, and T.P. Holtsford. 1995. Final Report Endangered Species Project SE-01-27, Improving the Status of Endangered Species in Missouri, Ozark Cavefish Genetics, Ozark Cavefish Genetics: the Phylogeny of Missouri's Ozark Cavefish (*Amblyopsis rosae*) and Southern Cavefish (*Typhlichthys subterraneus*). School of Natural Resources and Department of Biological Sciences, University of Missouri, Columbia, MO 65201.

Endangered Species vs Economics

Examination of 15 years of state data strongly contradict assertions that the Endangered Species Act (ESA) has had harmful effects on state economies. In fact evidence points to the converse. The economic effects of endangered species listings are so highly localized, of such small scale, and short duration that they do not substantially affect state economic performance in the aggregate. They are lost in the noise of background economic fluctuations. A rare toad may indeed impede construction of an ocean resort or golf course, but such events do not ripple back through state economies.

Although detractors of the ESA often describe it as blind to the needs of people and the economy, every government and academic examination of the endangered species process has reached the opposite conclusion: political, economic, and social considerations permeate the listings process. In fact, for every tale about a project, business, or property owner allegedly harmed by efforts to protect some plant or animal species there are over 1000 stories of virtual "non interference."

In reviewing the record of 18,211 endangered species consultations by the Fish and Wildlife Service and National Marine Fisheries Service covering the period 1987-1991, the General Accounting Office found that only 11% (2050) resulted in issuance of formal biological opinions. The other 89% were handled informally -- that is to say the projects proceeded on schedule and without interference.

Of the 2050 formal opinions issued, a mere 181, less than 10% concluded that proposed projects were likely to pose a threat to an endangered plant or animal. And most of these 181 projects were completed, albeit with some modification in design and construction. In short, more than 99% of the projects reviewed under the ESA eventually proceeded unhindered or with marginal additional time and economic costs.

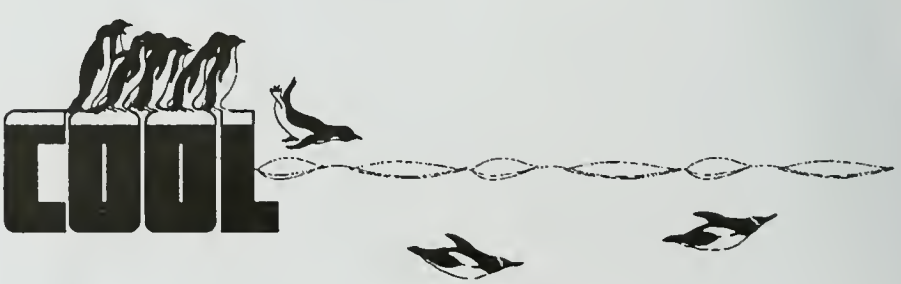
Given the political and economic screening that occurs in listings cases, it is not surprising that no measurable negative economic effects are detectable at the state level. Counties, cities, and towns are much more sensitive to single employer or single industry effects. Endangered species critical habitat listings may, under certain conditions, demonstrate negative economic impacts at the local level. The evidence, however, remains to be collected and analyzed.

But even conceding the possibility of systematic local effects, in terms of scale and scope, they are a far cry from the national economic crisis that the ESA's detractors depict.

Economic assistance, job training grants, and other localized programs can make a difference in such cases at modest cost. The revitalization of county economies in the Pacific Northwest following listing of the Northern Spotted Owl is one example. Furthermore local economic effects must be considered in context. Hundreds of state and federal policies have far more injurious impacts on local economies than wildlife protection.

For example, the recent series of military base closings have had economic effects hundreds of times greater than all the ESA listings during its 20-year life. Even greater economic and social harm resulted from the ill-conceived deregulation of the savings and loan industry during the 1980s. The number of jobs lost to leveraged buy-outs in the 1980s exceeds by many times the wildest estimates of jobs lost to endangered species; and no social good was accomplished in any of these cases.

The evidence is clear. Based on the actual economic expense



under the ESA, weakening the Act will not spur job creation and economic growth. It will not launch poor rural or western communities on the road to prosperity. It will not save overextended developers from bankruptcy. If growing the economy is the top priority of government then we should focus on policy options that can make a difference.

Source: Meyer, S.M. 1995. Working Paper No. 4, Endangered Species Listings and State Economic Performance. Massachusetts Institute of Technology, Project on Environmental Politics and Policy, Bldg/Room E38-628, Cambrige, MA 02139, (617) 253-8078.

Biodiversity Act?

"Saying it is not necessary to try to protect every plant and animal that faces extinction, House Speaker Newt Gingrich (R/GA) told a House task force [studying the Endangered Species Act (ESA)] that he supports revising the ESA to account for both biological diversity and protection of individual property rights".

Gingrich, who claimed that he comes out of the "Teddy Roosevelt wing" of the GOP, said "this is not just about large vertebrates" but also "fungi and various other things" that produce medicine for the future. He added that the "vision of the [ESA] by those who wrote it is inconsistent with the bureaucracy and micromanagement that has evolved". The ESA has the wrong focus and needs to be redefined and perhaps renamed "the Biological Diversity Act," because protection is currently based on "bad science," and the act's implementation is "'rife' with micromanagement."

House Resources Committee Chairman Don Young (R/AK) told the task force that the "'willy nilly application of the law' maddens his constituents." Interior Secretary Bruce Babbitt on May 25th said critics are trying to "dismantle" the parks system and "gut" the ESA by "slashing" the budgets of the Interior Dept. and its agencies. The House Resources Committee will be in charge of "retooling" the act when the task force completes its hearings.

"As Congress reviews the ESA, the most important debate at the moment is not between the law's defenders and its critics, but among conservatives of different stripes quarreling over how much to revise it," reports John Cushman in the New York Times. One side is led by Sen. Slade Gorton (R/WA), who has worked with large timber and paper companies to devise more flexible regs that would "ease the way for companies to exploit natural resources." But a faction based in the House "would practically do away with federal regulations" and instead rely on financial incentives to encourage landowners to preserve habitat.

Gorton believes his approach "will gain appeal if a more extreme alternative emerges on the right." According to Gorton, "The national environmental organizations exhausted their entire supply of adjectives in cussing out my bill, and they aren't going to have any left when they see a really radical proposal." As the struggle among conservatives plays out, one person to watch for clues to the outcome could be Speaker Gingrich, who has said he favors a bill that is "economically rational" and "biologically correct". In the 103rd Congress, he sponsored enviro-backed changes to the ESA with Gerry Studds (D/MA).

The Environmental Defense Fund (EDF) is circulating a memo addressed to Sen. Gorton that reveals the heavy role coalitions of business, agriculture and other groups played in writing his ESA bill. The February 28th memo, written by Gorton aide Julie Kays, says in part: "The coalitions delivered your ESA bill to me on Friday ... It is important that we have a better than adequate understanding of the bill prior to introduction".

According to EDF's Michael Bean: "He's carrying water for a lot of industry, and it's quite clear ... that in fact those industries wrote this bill for him". Gorton dismissed the charges as a "misinformation" campaign and said outside groups -- "primarily of farmers, ranchers and timber workers" -- were only consulted for their opinions. The Gorton bill is intended to bring "human considerations" into species listings, the senator says.

The bill is given a strong chance of passing Congress. "The dispute points up how lobbyists continue to influence legislation in a new Congress supposedly dedicated to doing away with politics as usual." On April 6th, George Miller (D/CA) said he will introduce a bill to force lawmakers to disclose any language written by lobbyists.

Source: Greenwire, Vol. 4, No. 233 and Vol. 5, No. 20 and 21

Science and the Endangered Species Act

In response to a bipartisan request almost 3 years ago from three congressional leaders (former House Speaker Thomas Foley, Senator Mark Hatfield, and Representative Gerry Studds), the National Research Council (NRC) recently released its study regarding scientific aspects of the Endangered Species Act (ESA).

The NRC committee was charged with addressing whether the ESA conforms to contemporary scientific knowledge about habitat; risks to species; and identifying species, subspecies, and other biological groups below the species level. The committee was also asked to consider whether the

ESA conforms to what is known about factors needed for recovery of endangered species, possible conservation conflicts between endangered species, and the timing of key decisions under the Act.

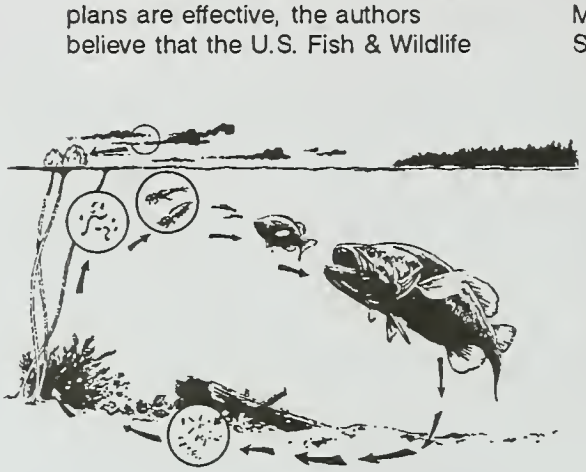
Committee members found that there has been a good match between science and the ESA. Given new scientific knowledge, the committee simply recommends changes to improve the Act's effectiveness. The report notes that the Act's emphasis on protecting habitat reflects current scientific understanding of crucial relationships between species and their habitats.

Members of the NRC committee endorse the regionally based, negotiated approaches to development of habitat conservation plans provided for by 1982 amendments to the Act.

In order to avoid situations where designating critical habitat becomes controversial and arduous, delaying or even preventing protection, the report recommends that when a species is listed as endangered, a core amount of "survival habitat" be protected as an emergency, stop-gap measure, without reference to economic impact. This survival habitat should be able to support either current populations or the population necessary to ensure short-term survival for a period of 25 to 50 years. When the required recovery plans are adopted or the required critical habitat is identified and designated, the survival-habitat designation should automatically expire, state the authors.

The committee was also asked to address the definition of species. The authors conclude that the Act's inclusion of distinct population segments is scientifically sound and should be retained. But to provide greater scientific objectivity in identifying population segments, the committee report recommends using the concept of "evolutionary units" that identify biological groups with distinctive behavioral and genetic characteristics, and that possess the potential for a distinct evolutionary future. The authors note that by focusing attention on the important, distinctive attributes of organisms, the use of evolutionary units would provide policy-makers with an additional scientific basis for determining which groups of plants and animals merit protection.

The report states that recovery plans designed to achieve ESA goals are often developed too slowly or cannot be justified scientifically. To ensure that these plans are effective, the authors believe that the U.S. Fish & Wildlife Service, which oversees each plan, should establish explicit guidelines for developing them.



Committee members noted that the ESA was not designed to carry out all of the nation's conservation policies and that additional approaches need to be developed and implemented as complements to the Act to prevent the continued, accelerated loss of species and to reduce economic and social disruption.

The NRC is the principal operating agency of the National Academy of Sciences and the National Academy of Engineering. The NRC is a private, non-profit institution that provides scientific and technological advice under a Congressional charter. Funding for the study was provide by the U.S. Fish & Wildlife Service.

The NRC Committee on Scientific Issues in the Endangered Species Act included the following persons: Michael Clegg, UC-Riverside; Gardner Brown, UWA-Seattle; William Brown, RCG/Hagler Bailly Inc.; William Fink, UMI; John Harte, UC-Berkeley; Oliver Houck, Tulane Univ.; Michael Lynch, UOR; Lynn Maguire, Duke Univ.; Dennis Murphy, Stanford Univ.; Patrick O'Brien, Chevron Research & Technology Co.; Steward Pickett, Institute of Ecosystem Studies; Katherine Ralls, Smithsonian Institution; Beryl Simpson, UTX; Rollin Sparrowe, Wildlife Management Institute; David Steadman, UWA; James Sweeney, Champion International Corp.; Research Council Staff, David Policansky

Pre-publication copies of the report, "Science and the Endangered Species Act," are available from the National Academy Press at 2101 Constitution Avenue, NW, Washington, DC 20418, (202) 334-3313 or (800) 624-6242. Cost of the report is $45.00 (prepaid) plus shipping charges of $4.00 for the first copy and .50 for each additional copy.

The anticipated impact of the NRC report on Congressional debate related to the ESA is questionable. In approving a rewrite of the Clean Water Act earlier this year, the House "turned a deaf ear" to another National Academy of Sciences report endorsing "tough" wetlands protection. Endangered Species Coalition Campaign Director Jim Jontz said, "The report says that scientists regard the current rate of extinction as a crisis. The report endorses strengthening, not weakening the ESA".

Source: Greenwire, Vol. 5, No. 18 and Land Letter, Vol. 14, No. 16

President Clinton's Environmental Views

In an exclusive written interview with Greenwire, President Bill Clinton assailed GOP efforts to rewrite the nation's environmental laws and repeated his commitment to "common sense" regulatory reform. The following summarizes some of Greenwire's questions and Clinton's responses:

(1) What are your top domestic environmental policy priorities for this year and next?
Response: "As we approach the 25th anniversary of Earth Day, it's time to use what we have learned to reinvent environmental programs and reaffirm our national commitment to the basic goals of healthy air and water. The modern era of environmental protection is truly a great American success story -- it's something to be proud of. But if we are going to meet the challenges of the next quarter century, we cannot stand still. So my first priority is to reinvent and reinvigorate environmental programs. We just announced 25 actions to reinvent EPA. We're cutting paperwork by 25%. We're giving small businesses a six-month enforcement grace period when they act in good faith. I'm particularly proud of Project XL -- for excellence and leadership -- in which EPA is allowing 50 companies or communities to replace current regulatory requirements with an alternative of their own design. If the company can do it cleaner, cheaper, we'll let them find a way. But there is a big difference between reform and rigor mortis. My second priority, just as important as the first, is to stop those who would use the need for reform as an excuse to roll back public health protection. As I said recently, if Congress wants to sit down with me and work out a reasonable solution for regulatory reform, I'm eager to do it. But if, for example, they send me a bill that lets contaminated water continue to find itself into city water systems, I will veto it."

(2) The stated goals of your environmental policies -- "common sense" regulatory reform, making plans based on dialogue and consensus, streamlining bureaucracy, and creating jobs while protecting the environment -- enjoy broad support. Why, then, is your agenda under such attack?
Response: "I campaigned on the premise that the environment and the economy go together, and that in the long run, you can't have one without the other. In my policies, we've been demonstrating it -- whether it's the plan for the Northwest to protect old-growth timber and put people back to work, or the plan for the San Francisco Bay Delta to give water to agriculture, cities and the environment -- or the reinventing government initiatives I just mentioned. Of course, these are tough issues and there will always be people on each side who aren't satisfied. But of one thing we can be sure: Americans support the goal of health and environmental protection. That's probably why the word 'environment' doesn't appear in the Contract With America. The more people find out about the fine print in the Contract ... the more they find out about the attacks on health and safety programs, the more pressure there will be for the Senate to reject them. They've already rejected the regulatory moratorium in favor of something more reasonable, and I hope they'll do the same for some of the other House GOP proposals."

(3) What are your views on the bills moving through Congress to require compensation of property owners when regulations, such as wetlands or species-protection rules, lower the value of their property?
Response: "Like any government programs, these programs need reform. That's why we created small-landowner relief programs for wetlands and endangered species. In fact, the vast majority of small landowners -- homeowners -- are virtually out from under these programs. That's the right way to reform. But there is a wrong way -- like the Congressional takings proposals we've seen this spring that establish automatic compensation. They could cost hard-working taxpayers billions of dollars, benefit mainly wealthy landlords and polluters, and cripple our ability to protect things ordinary people want -- a clean environment, safe workers, even civil rights. I'm opposed to these proposals and would veto the House version."

(4) Some of the administration's natural-resource stands -- on grazing, logging and species recovery, for example -- have created a political backlash, especially in the West. How do you respond to those who say your policies constitute a "War on the West"? Are these conflicts affecting your re-election prospects?
Response: "There is very strong, very deeply held support among the American people for protecting human health and the environment. That's a common American value, shared in Colorado and Washington and other Western states as much as anywhere else in the country. That's why we're working hard to protect declining fish stocks, for example, and why we're determined to manage our forests in a responsible way. But we also need less bureaucracy and red tape. That's why our ecosystem-management initiatives focus on bringing in people from the affected communities. We're trying to avoid the kinds of crises we've seen in the past. We're still picking up the pieces from some inherited crises, such as the situation in the Pacific Northwest. Our forest plan provides economic assistance in the three West Coast states -- worker training, infrastructure investment and aid to families and businesses. And after three years, we're finally out of the courtroom and putting people back to work in the communities again."

(5) What are your top international environmental policy priorities for this year and next? How will the U.S. keep its international environmental treaty obligations – and its leadership role – at a time when domestic budgets are being cut and restructured?
Response: "The global environment is an extremely important element in our foreign policy. Our priority issues for this year and next include deforestation, depletion of fishery resources and pollution of the oceans, rapid population growth, industrial pollution, ozone depletion and global climate change. We intend to work with other nations on appropriate actions in each area. In addition, we will be working very hard to redefine the roles of UN organizations and other international institutions in responding to these problems and in resolving emerging issues before they become full-blown crises. Finally, we will continue to reinvent our own foreign affairs agencies to provide a better-coordinated response to global environmental concerns."

(6) Some environmental activists have said you do not devote enough personal attention and political capital to pushing the administration's environmental agenda. How do you respond?
Response: "Since the very beginning, I've been engaged in environmental concerns. Almost immediately after taking office I convened the historic forest conference in Portland, OR and worked hard with all the stakeholders to develop the plan. A month later, I outlined more than a dozen specific actions that I would take – and I followed through on all of them. As the threat to the nation's environmental laws has mounted since the last election, I've spoken out repeatedly against bad legislation in the Contract With America and announced new reforms of my own to better protect public health at lower cost. When I recently listed those Republican proposals I just couldn't accept, many of them concerned the environment. I'm very proud of my record."

Source: Greenwire, Vol. 4, No. 240

Pro-Environment Young Republicans

According to an article by Steve Goldstein (Philadelphia Inquirer, May 31), the year-old Republican Youth Majority favors abortion rights and "takes a pro-environment stance that differs sharply from the property-rights tack of conservatives." "We must preserve our natural resources for future generations," the group's mission statement says.

Group leaders claim chapters at 44 schools nationwide, including Penn State, Rutgers, George Washington University, and Stanford, and they aim to have chapters on 100 campuses by the end of 1995. Advisory board members include two GOP presidential contenders: Sen. Arlen Specter (PA) and Gov. Pete Wilson (CA). Govs. Christine Todd Whitman (NJ) and William Weld (MA) have been invited to join the board. The group hopes to be officially recognized by the Republican National Committee (RNC). RNC Chairman Haley Barbour on May 25th said he had not heard of the group. The "generally very conservative" College Republicans group, which the RNC stopped funding in January 1995, claims 40,000 members on 800 campuses.

Source: Greenwire, Vol. 5, No. 23

Farm Bill Reform

Senate Agriculture Committee Chairman Richard Lugar (R/IN) on May 25th proposed measures that would keep Farm Bill spending at current levels, maintain the "popular" Conservation Reserve Program (CRP) and "shift more dollars to fighting water pollution." The new bill would merge the Agricultural Conservation Program and other conservation programs targeting farmers and ranchers into one Environmental Quality Incentive Program. The legislation would "cap" spending for conservation programs at the present level of $2.06 billion over the next five years. The bill is "expected to be influential" because Sen. Patrick Leahy (VT), the ranking Democrat on the committee, has endorsed it.

The plan would cut the budget of the CRP, under which landowners are paid to plant grass, trees or other cover on environmentally sensitive land, from $1.8 billion a year to $1.2 billion by the year 2000. Only the "most environmentally sensitive land" would be idled, according to the proposal. The proposal, which would shift "half of available federal dollars" to fighting water pollution caused by livestock, "reflects the shift in environmental concerns from wind erosion to water pollution." The bill also would allocate $150 million a year to the Wetlands Reserve Program, which pays for permanent easements to preserve wetlands. The funds would be more than Congress has given the program, but less than the administration has requested.

The American Fisheries Society (AFS) has developed a position statement on the 1995 Farm Bill. It includes the following provisions:
1. Require vegetated filter strips along all streams and lakes on lands of private property owners receiving financial assistance from the federal government.
2. Pay landowners fair market value to convert environmentally

sensitive or high priority CRP lands to perpetual wetland or environmental easements.
3. Minimize stream channelization and maintenance dredging by eliminating government benefits and payments to landowners who conduct such activities.
4. Include trained aquatic biologists on state technical committees and other multidisciplinary teams guiding implementation of federal farm programs.
5. Minimize, and eliminate where possible, livestock access to streams and feedlots or holding areas near streams (e.g. fencing).
6. Redirect federal price supports and subsidies from commodity crops into the implementation of long term, ecologically sustainable agricultural practices.
7. Enforce compliance with mandatory conservation provisions of federal farm programs and ensure all enrolled lands are farmed within "tolerable" limits for soil erosion.
8. Provide private landowners with adequate technical assistance so they can prepare and implement approved conservation plans.
9. Fund and promote sustainable agriculture research and education.
10. Support tax incentives for landowners who sell conservation easements.

For more information on the AFS position regarding the 1995 Farm Bill contact: Paul Brouha, Executive Director, AFS, Bethesda, MD 20814-2199, (301) 897-8616.

Source: Greenwire, Vol. 5, No. 21 and Fisheries Vol. 19, No. 12

Grazing Bill

Led by Sen. Pete Domenici (R/NM) and Rep. Wes Cooley (R/OR), a group of Western conservatives on May 25th introduced bills designed to "scale back" federal grazing regulations proposed by Interior Secretary Bruce Babbitt.

According to Cooley, "This is perhaps the last best chance to stop Bruce Babbitt and save the Western livestock industry from almost certain destruction."

The new bill would extend existing permits 10 to 15 years and "insulate" them from many enviro laws, "including the National Environmental Policy Act and the Endangered Species Act." The legislation also includes:
- New requirements that prevent the public from participating in grazing decisions;
- A new grazing fee formula calling for a "token" fee increase from $1.61 to approximately $2.10 per-animal-unit month;
- Elimination of a policy requiring ranchers to provide access to public lands they lease;
- Reversal of an Interior Dept. proposal that would have let ranchers set aside land for up to ten years for conservation purposes;
- A new provision which gives ranchers "proportional titles" to improvements made on federal lands; and
- Directs the Interior secretary to establish standards and guidelines on a state or regional level, and "explicitly states that nothing in the law shall imply that minimum national standards or guidelines are necessary".

Interior Secretary Bruce Babbitt and enviros have argued that higher fees and reforms in grazing policies are needed to keep ranchers from overgrazing. An Interior source said the agency was studying the plans, but earlier drafts appeared to "severely restrict" public involvement, grandfather rancher's authority to keep livestock at 1993 levels and restrict the Bureau of Land Management from changing permit conditions on riparian lands.

Source: Greenwire, Vol. 5, No. 17 and 21

Religion and the Environment

According to an article in the March-April issue of the Utne Reader, environmental concern is growing among some elements of the religious right, including conservative Catholics and evangelicals. "Many of them are discovering in their Bibles a previously overlooked commandment: Thou shalt care for the earth."

In 1990 a group of 34 prominent scientists including Carl Sagan, Freeman Dyson, and Stephen Jay Gould issued an "Open Letter to the Religious Community" declaring that the earth's problems were so grave they must be recognized from the outset as having a religious as well as a scientific dimension.

Religious leaders responded, and formed the National Religious Partnership for the Environment (NRPE). Last year, the NRPE; which brings together the U.S. Catholic Conference, the Evangelical Environmental Network, the National Council of Churches of Christ, and the Coalition on the Environment and Jewish Life; distributed 53,000 environmental starter kits to congregations throughout the United States. Of that number, 20,000 went to evangelical congregations, reports NRPE director Paul Gorman, "... and 1,000 of them sent in forms to ask for more. In direct mail circles that's an amazing response."

"Science may have alerted evangelicals to the problem, but it's Scripture that's moving them to action." Evangelicals (a term that includes Southern Baptists, Pentacostals, and many other denominations and individual churches) "take the Bible very seriously," notes Calvin B. DeWitt, director of the Au Sable Institute for Christian Environmental Education. "They quickly turn around on issues once they are convinced that they are biblical."

"The environment is very biblical indeed. The Psalms praise the creator and the wonders of creation." Noah was instructed by God to build an ark and take two of every creature into it, which he devoutly did, despite jeering neighbors. "If you translated that story into modern terminology," says DeWitt, "You would frame it as saving threatened species." The Noah story is convincing many evangelicals that stewardship of the earth is a biblical charge to humanity, with serious repercussions if we fail.

For Rob Gorman, a Catholic social worker in the bayous of Louisiana, and for many other Catholics, the issue is jobs and justice. Fishermen began turning up in the thrift stores and food banks run by the Catholic diocese of Houma-Thibodeaux because poor environmental practices were causing severe erosion of wetlands and damaging fisheries. "It became very clear down here," Gorman reports, "that its not humans versus the environment. It's humans and the environment, or ain't neither of us going to be here."

"The environment is the ultimate 'pro life issue'", writes Albert J. LaChance in his book *Embracing the Earth: Catholic Approaches to Ecology* (Orbis, 1994).

Source: IN BRIEF, Utne Reader, March-April 1995

Arkansas Ends Mining In Protected Streams

A bill to end gravel mining in 24 protected Arkansas streams was signed into law by Arkansas Governor Jim Guy Tucker (D) on April 19th. The measure would end mining in streams given special status by the state Department of Pollution Control and Ecology and give a two-year grace period to mining in streams designated in the future. Under separate legislation a gubernatorial task force will study the effects of gravel mining.

Source: Greenwire, Vol. 4, No. 234 and 240

Takings Issues

Novel legal theories being pushed by some in the "Takings Battles" currently being debated in the courts and before Congress include such "lunatic fringe" arguments as that proposed by Nevada rancher, Wayne Hage. Hage alleges in a lawsuit pending in a federal appeals court in Washington that the government owes him compensation because fish and game agencies don't prevent elk herds from drinking from his streams and munching on his land. "That is a taking of his water and grass, he contends." Hage is seeking "at least" $28.4 million in damages.

"Did I read that right?"

In another example, mining practices at the Summitville Mine in south-central Colorado have created a "heap" of cyanide-laced waste, with Superfund cleanup expected to cost taxpayers $120 million. The Canadian company that operated the mine has declared bankruptcy and left the country. But now the mine's owners, Aztec Minerals Corp., Gray Eagle Mining Corp. and South Mountain Minerals Corp., have sued the state of Colorado. Their claim: "Because regulators did as the companies wished and permitted mining that earned them substantial profits but polluted their property, their land has been devalued by regulatory action – a taking under the Colorado constitution." The owners also say property values have been hurt because the emergency cleanup has closed the mine, possibly for good.

While private property rights issues continue to dominate environmental policy discussions in Congress, the movement's most significant gains are coming at the state level. In all but three states private property rights bills have been introduced, and 18 states have now passed property rights legislation of some form. These include Arizona, Delaware, Florida, Idaho, Indiana, Kansas, Mississippi, Missouri, Montana, New Mexico, North Carolina, North Dakota, Tennessee, Utah, Virginia, Washington, West Virginia, and Wyoming.

"It is absolutely overwhelming," said Nancie Marzulla of Defenders of Property Rights. "There's a bubbling cauldron of activity in the states. What we see happening at the state level goes far beyond what we see at the federal level." But environmentalists dispute the significance of property rights activities in the states and dismiss many of the state-passed bills as minor assessment or sense-of-the-body type laws that do little to change regulatory policy.

Property rights advocates suffered setbacks in some states. Despite state House passage of a compensation bill, the Arkansas

legislative session ended April 7 without Senate action. Two procedural bills introduced in Maryland were killed in committee, and bills introduced in New Hampshire also failed to win passage.

"The overwhelming majority of states have rejected takings legislation, and, with a few exceptions, the states have rejected payment bills that redefine the constitutional standard for takings," said John Echeverria of the National Audubon Society. "The Dole-Gramm bill (S. 605) is light years more extreme than any bills that states are adopting." He points out that the National Governors Association, National League of Cities, and the National Institute of Municipal Law Officers, representing city attorneys around the country, among other groups, are on record opposing takings bills.

Still, property rights is an issue in many states, and odds are a few more bills will be approved before year's end. In North Carolina, lawmakers introduced eight bills aimed at relaxing environmental laws that some say infringe on the rights of landowners. The measures include a bill to repeal the state's main law restricting development in watershed areas and another bill that would provide compensation to landowners whose property values were affected by environmental regulations.

In what some groups are calling a "landmark" property rights case, a Massachusetts Land Court judge struck down a Peabody, MA, zoning ordinance that had prohibited a landowner from building a house in a wetlands-conservation district. Under a Peabody Conservation Commission ordinance, Americo Lopes was denied a building permit for the land he held since 1981, because he proposed building a house within 30 feet of a pond or below an elevation of 88.6 feet. Lopes took his case to the U.S. Supreme Court under the "takings" clause, but the court remanded it to the Massachusetts Land Court. Chief Justice Robert Cauchon amended the elevation requirement to permit construction of the house.

In Michigan, a property rights case over a West-Bloomfield Township ordinance that requires developers to seek permission before cutting any trees in certain areas could be destined for the Supreme Court. The ordinance, passed in 1987, was described by the Detroit News/Free Press as "one of the nation's broadest woodlands protection ordinances." In the case, John Karchon, who purchased land in 1985 to build a company headquarters, ordered workers to cut down 30 trees. The town sued Karchon, who filed a countersuit with the aid of the Builders Association of Southeast Michigan and the Pacific Legal Foundation, a conservative legal group that has been searching for precedent setting cases to take to the Supreme Court. Karchon won in Oakland County Circuit Court, and the case is now pending before the Michigan Court of Appeals.

A bill to make government pay "when its regulations deny landowners full use of their property" is pending in the Louisiana Senate Agriculture Committee. Enviros and local governments have opposed the bill, but Florence Robinson, a Southern University. professor and an enviro activist, said she supports it. "As soon as this bill becomes law, we citizens and property owners who live within four miles of any chemical industry, landfill, Superfund site, incinerator ... [are] going to have more New York lawyers than you can shake a stick at coming down here to find creative ways to use this law so that we can receive just compensation for our devalued property," she said. State Rep. Noble Ellington (D), sponsor of the bill, answered: "I don't know how much more of that kind of help I can stand".

Source: Greenwire, Vol. 4, No. 228 and Vol. 5, No. 17; and Land Letter, Vol. 14, No. 12

Farm Conservation Economics

A recent analysis of farm level economics in Virginia revealed that whether they run dairy and poultry farms, grow cash grains, or cash grains and vegetables, farmers in coastal areas can profit from conservation measures. The preliminary analysis was prepared for the Virginia Department of Agriculture and Consumer Services by the USDA's Natural Resources Conservation Service (NRCS) and an interagency team. The report projects favorable on-farm impacts for farmers who implement the kinds of pollution prevention management recommended in EPA guidance issued under the federal Coastal Zone Act Reauthorization Amendments of 1990 (CZARA).

This guidance calls on farmers in coastal zones to:
- address erosion and runoff from confined animal facilities;
- apply nutrients and pesticides efficiently and in an environmentally beneficial manner;
- address problems on grazing lands; and
- efficiently apply irrigation water.

To begin their study, researchers applied these agricultural management measures to hypothetical farms representing three types of operations in different geographical regions of Virginia:
1. A combination dairy/ poultry farm (110-head dairy and 50,000 broilers) in the Shenandoah Valley;
2. A 575-acre cash grain farm on the state's Northern Neck; and
3. A combination cash grain/vegetable crops operation (500 acres of small grains and 350 acres of vegetables) on the

Eastern Shore.

The dairy/poultry operation needed rotational pasture grazing and a rotational loafing lot system, including a diversion, sod filter strip, and fencing. The projected net economic impact of implementing these practices resulted in a positive gain of $4,167 per year in average annual equivalents (AAEs), when accounting for noncash cost savings (for example, reduced labor costs) and with 50% cost-sharing. If cost-sharing and the savings described above are not included, the net gain in AAEs is $1,026. However, the report noted that in either case, "upfront costs" could negatively impact implementation of BMPs.

The 575-acre cash grain operation was assumed to need additional nutrient management practices and an anti-backflow device for pesticide applications. The projected net economic impact was a positive gain of $1,050 each year, mostly from reduction of commercial fertilizer applications.

The third farm, a cash grain/vegetable crop operation, was assumed to need a nutrient management plan on the vegetable crop acres. This farm realized a positive gain of $3,950 a year from savings on commercial fertilizer. The analysis reveals the potential economic advantages of implementing management measures for potential pollution sources and demonstrates the necessity of controlling upfront costs that might otherwise discourage farmers' efforts.

For more information contact: David Faulkner, USDA NRCS, 1606 Santa Rosa Rd., Richmond, VA 23229-5014. Phone: (804) 287-1664.

Source: Nonpoint Source News-Notes March/April 1995, Issue #40

Interstate Pollution

Most of the water pollution problems in 18 states originate outside their borders, according to a U.S. Geological Survey report made public on June 2nd. Researchers Richard Smith and Richard Alexander sampled water from across the country for phosphorus and analyzed its movement with computers. "Despite a new political emphasis on returning authority to the states, the study illustrates that state governments might have less control over their water quality than they would like".

Many states facing out-of-state pollution are along the Mississippi, Missouri and Ohio rivers. States with more than 50% outside pollution were Arkansas, Connecticut, Delaware, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Mississippi, Missouri, New Jersey, North Dakota, Tennessee, Utah, Washington and West Virginia. Fifteen more states received 25-50% of their water pollution from other states.

The pattern varies by pollutant, the researchers said. Chemicals less subject to evaporation or settling on stream bottoms are more likely to cross borders. Chemicals like the herbicide atrazine can be found in water hundreds of miles from where they are used.

Source: Greenwire Vol. 5, No. 25

Environmental Opinion Polls

I. NBC News/W.S. Journal telephone poll surveyed 803 adults on April 3-4; margin of error is +/- 4%. Results:

(A) Of these criticisms that democrats make about republicans in congress, which one or two concern you the most?

44% - They are siding with business and the wealthy over average people.
32% - They are too tough on poor families and children.
1% - They are cutting consumer and enviro protections.
15% - They often make extreme proposals.
12% - They are not bringing the change they proposed.

(B) Is Congress moving in the right direction with a moratorium on new federal regs affecting business and local government?

Right direction	60%
Wrong direction	18
Neither right nor wrong	3
Not sure	19

II. Louis Harris and Associates poll surveyed 1,255 adults nationwide on April 14-20; margin of error is +/-3%. Results:

(A) How would you rate the environment in the U.S.?

Excellent	4%
Pretty good	38
Only fair	40
Poor	17
Not Sure	1

(B) By 2000, will the environment get better or worse?

Get better	20%
Get worse	42%
Stay the same	38%
Not sure	1%

(C) Does the government favor jobs or the environment too much?

Favors Jobs:

Today	29%
In 1993	32
East	33
Midwest	31
South	28
West	25

Favors environment:

Today	24%
In 1993	24
East	21
Midwest	24
South	22
West	33

Balance about right:

Today	43%
In 1993	38
East	43

Midwest	42
South	45
West	38
Not sure:	
Today	4%
In 1993	5
East	3
Midwest	3
South	4
West	4

(D) Should feds have the right:

(1) To set regulations affecting the use of private property?

Should have	38%
Should not have	59
Not sure	3

(2) To bar development/use of private land?

Should have	38%
Should not have	59
Not sure	3

(3) If it would harm the environment?

Should have	79%
Should not have	20
Not sure	1

(B) To protect endangered species, would you be willing to pay:

(1) Higher income taxes?

Very willing	15%
Somewhat willing	44
Not very willing	20
Not at all willing	20
Not sure	1

(2) Higher electric rates?

Very willing	15%
Somewhat willing	46
Not very willing	21
Not at all willing	18
Not sure	1

III. American Farmland Trust's Center for Agriculture in the Environment poll surveyed 1,090 farmers by phone and mail in February and March 1995. The margin of error is +/- 4.4%.

(A) A proposal to base income-support payments to farmers on how well they protect natural resources is:

Acceptable	59.4%
Unacceptable	37.4
Undecided	3.1

(B) What do you think of requiring farmers of highly erodible land to protect it, as a condition for getting USDA benefits?

Favor	78.3%
Oppose	20.1
Undecided/no answer	1.6

(C) What do you think of the "Swampbuster" program, which bars farmers from disturbing wetlands if they want USDA benefits?

Favor	41.3%
Oppose	53.6
Undecided/no answer	5.1

(D) What kind of lands should get top ranking for inclusion in a renewed Conservation Reserve Program?

Highly erodible cropland -	67.9%
Land next to streams -	21.1
Land for wildlife habitat -	9.1
Not sure/no answer -	1.9

IV. USA TODAY/CNN/Gallup poll surveyed 1,007 adults by telephone on April 17-19. Margin of error is +/-3%.

(A) Do you consider yourself to be an environmentalist?

	4/95	4/90
Yes	63%	73%
No	34	24
?	3	3

(B) If so, would you say you are a strong environmentalist?

	4/95	4/90
Yes	47%	35%
No	52	38
?	1	NA

(C) Should enviro protection or economic growth be given priority?

	4/95	4/90
Enviro protection	62%	71%
Economic growth	32	19
No opinion	6	10

(D) Since 1970, how much progress have we made in dealing with enviro problems in the U.S.?

	4/95	4/90
Great deal	24%	14%
Only some	61	63
Hardly any	14	21
No opinion	1	2

(E) Who do you trust more on environmental issues?

Federal government	46%
Private business	38
Both equally	2
Neither	10
No opinion	4

(F) Do you think GOP proposals in Congress concerning the environment will provide adequate enviro protections?

Will	30%
Will not	49
No opinion	21

(G) Life will continue without major enviro disruptions only if:

	4/95	4/90
We take additional, immediate, drastic action:	35%	54%
We take some additional actions:	48	33
We take just the same actions we have been:	15	9
No opinion	2	4

V. Pollsters Peter Hart and Robert Teeter surveyed 1,003 adults on March 16-18; margin of error is +/-3.1%.

(A) Which has greatest responsibility for reducing air and water pollution?

Government	31%
Individuals	27
Business	20
Community leaders	11
All/combination	9
Not sure	2

(B) Which should be most responsible for running air and water programs?/For paying for them?

State government	40%/43%

Federal government	35 /36
Local government	22 /17
None	1 / 1
Not sure	2 / 3

(C) Government regulation makes the environment much cleaner and safer than it would be if businesses were left to their own devices:

Strongly agree	48%
Somewhat agree	29
Somewhat disagree	12
Strongly disagree	9
Not sure	2

(D) Government regulations make products a good deal more expensive than they need to be:

Strongly agree	40%
Somewhat agree	34
Somewhat disagree	16
Strongly disagree	7
Not sure	3

(E) The government has gone too far in regulating business and interfering with the free enterprise system:

Strongly agree	36%
Somewhat agree	37
Somewhat disagree	17
Strongly disagree	7
Not sure	3

VI. National Parks and Conservation Association poll. Respondents on average said they had visited 16.3 parks. Colorado State University surveyed 943 adults early in February 1995. Margin of error is +/- 3%:

(A) Federal spending on parks is:

Too much	6.4%
About right	61.7
Not enough	31.9

(B) The National Park Service and Congress should stress:

Care for existing units	29.1%
Increase/expand units	11.1
Balance of the two	59.8

(C) Reasons for having national parks:

(1) Provide an important experience for future generations:

Very Important -	87.6%
Somewhat Important -	9.8
Slightly Important -	1.9
Not Very Important -	0.6

(2) Protect water and air quality:

Very Important -	87.1%
Somewhat Important -	8.6
Slightly Important -	2.0
Not Very Important -	2.3

(3) Protect wildlife habitat:

Very Important -	86.6%
Somewhat Important -	10.0
Slightly Important -	1.9
Not Very Important -	1.4

(4) Preserve historical areas and sites:

Very Important -	84.9%
Somewhat Important -	12.5
Slightly Important -	1.7
Not Very Important -	0.9

(5) Provide recreation opportunities:

Very Important -	51.9%
Somewhat Important -	37.3
Slightly Important -	7.5
Not Very Important -	3.4

(6) Provide income for tourism industry:

Very Important -	17.6%
Somewhat Important -	40.0
Slightly Important -	16.8
Not Very Important -	25.7

(D) Which is closest to your opinion:

Manage parks so people like you can enjoy them -	30.4%
Keep parks pristine for future generations -	69.6%

(E) To manage visitation in popular parks, would support:

(1) Reservation system in peak season:
Yes: 68.6% No: 31.4%

(2) Limit level of daily use:
Yes: 58.5 No: 41.5

(3) Limit number of cars in peak season:
Yes: 78.4 No: 21.6

(4) Oppose limiting visitation:
Yes: 26.3 No: 73.7

(E) Visited a National Park/Park was overcrowded:

Yes	85.3% / 25.6%
No	14.7 / 74.4

(F) Would support entry fee of $6 per person per day*:

(1) If 100% of revenues went to parks
Yes: 79.9% No: 20.1%

(2) If 50% went to parks, 50% elsewhere:
Yes: 17.9 No: 82.1

(3) Against fee increase for any purpose:
Yes: 21.5 No: 78.5

*Current entry fee is $5 per carload for up to seven days.

Source: Greenwire, Vol. 4, No. 232, 235, 238, 241 and Vol. 5, No. 17

Jobs Opportunities

Fish Ecologist: To gather and analyze high resolution spatial and temporal information on fish spawning, nursery and refuge benefits of scoured wetlands created by the Missouri River flood of 1993 and relate to basin characteristics and major energy sources. M.S. or Ph.D. in large river or wetland fisheries ecology. Three year project beginning October 1995. Contact Dr. David L. Galat, Cooperative Research Unit, 112 Stephens Hall, University of Missouri, Columbia, MO 65211, (314) 882-9426. University of Missouri is an Affirmative Action Equal Opportunity Employer.

Ph.D. Assistantships (5): Investigate habitat use and population dynamics of benthic fishes along the Missouri River. Successful candidates will be part of an National Biological Service Cooperative Research Unit team. Starts July 1995. Qualifications vary depending on program. Contact PI on program(s) of your choice: Dr. Robert White, Dept.

Biology, Montana State Univ., Bozeman, MT 59717 (406) 994-3491; Dr. Charles Berry, Box 2014B, S. Dakota State Univ., Brookings, SD 57007 (605) 688-6121; Dr. Clay Pierce, Science Hall II, Iowa State Univ., Ames, IA 50011 (515) 294-3159; Dr. Chris Guy, 205 Leasure Hall, Kansas State Univ., Manhattan, KS 66506 (913) 532-6070; and Dr. David Galat, 112 Stephens Hall, Univ. Missouri, Columbia MO 65211 (314) 882-9426.

Meetings of Interest

July 16-19: Interdisciplinary Conference on Animal Waste and the Land-Water Interface, Fayetteville, AR. Contact Patti Snodgrass, Arkansas Water Resource Center, 113 Ozark Hall University of Arkansas, Fayetteville, AR 72701, (501) 575-4403, FAX: (501) 575-3846. The purpose of the conference is to provide a forum for interdisciplinary, holistic discussion of animal waste, soil and water interactions.

September 10-20 Karst Waters & Environmental Impacts, Antalya, Turkey. Contact: A. Ivan Johnson, Karst Symposium '95 Co-Chair, A. Ivan Johnson, Inc., 7474 Upham Court, Arvada, CO 80003.

September 14-16: Society for Ecological Restoration, Seattle, Washington. Restoration of ecosystem function and landscape patterns and processes will be addressed as well as the politics of restoration.

September 18-20 Versatility of Wetlands in the Agricultural Landscape, Tampa, FL. Contact: Kerry L. Curtis, Manager of Customer Services, Am. Water Resources Assoc., 950 Herndon Parkway, Suite 300, Herndon, VA 22070-5528. (703) 904-1225. FAX: 904-1228. Sponsored jointly by AWRA and ASAE.

September 28-30: Watersheds '95 Expo. Bellevue, Washington. Contact Andrea Lindsay, U.S. Environmental Protection Agency WD-125, 1200 Sixth Ave., Seattle, WA 98101, (800) 424-4EPA.

October 16-18: "The Conservation and Management of Freshwater Mussels II: Initiatives for the Future", Embassy Suites Hotel, St. Louis, MO. Contact: Alan Buchanan, Missouri Dept. of Conservation, (314) 882-9880.

Congressional Action Pertinent to the Mississippi River Basin

Agriculture.

H.R. 67 (Bereuter, R/NE) extends the Conservation Reserve Program for 10 years and the Wetlands Reserve Program for 5 years to protect valuable soil and water resources through long-term conservation easements.

Senate Agriculture Committee held hearings March 16 and April 4 on proposed legislation to improve agricultural programs and reauthorize the **Farm Bill**.

S. 586 (Lautenberg, D/NJ) and H.R. 1354 (Payne, D/NJ) eliminates the Agricultural Department and consolidates farm programs to an agribusiness block grant program.

Fish & Wildlife.

S. 191 (Hutchison, R/TX) and H.R. 490 (Smith, R/TX) amends the Endangered Species Act to ensure that private property rights are not infringed until adequate protection is afforded by reauthorization of the act by imposing a moratorium on new listings and critical habitat designations.

S. 455 (Kempthorne, R/ID) clarifies the procedures for consultation under the Endangered Species Act on management of federal lands.

S. 481 (Baucus, D/MT) limits expenditures required under the Endangered Species Act for the protection of fish and wildlife made by the Bonneville Power Administration that may be recovered from ratepayers.

S. 503 (Hutchison, R/TX) freezes listings and critical habitat designations under the Endangered Species Act. Approved by Senate Environment panel on March 14.

Senate passed **H.R. 889** making emergency supplemental appropriations for defense, attaching a Sen. Kay Hutchison amendment No. 336 rescinding 1995 funding for the listing of species as threatened and endangered and for the designation of critical habitat under the Endangered Species Act.

House Resources Committee held a hearing on **H.R. 1141**, amending

the "Sikes Act" to enhance fish and wildlife conservation and resource management plans, and approved the measure April 5.

Forests

Senate Energy Committee on April 5 held a hearing on federal forest management issues focusing on ecosystem management.

S. 647 (Lott, R/MS) amends the Forest and Rangeland Renewable Resources Planning Act of 1974 to require that major changes to forest management plans be phased in over time to minimize impact to communities.

H.R 1089 (Cremeans, R/OH) ensures that acquisition of lands for inclusion in the National Forest System does not result in a loss of tax revenue to the affected county.

H.R. 1439 (Metcalf, R/WA) amends the National Forest Management Act of 1976 to require that the timber sale program conducted by the Forest Service on forest system lands be financed only by receipts from the sale of timber under the program.

Government Affairs

S. 1 (Kempthorne, R/ID) and H.R. 5 (Clinger, R/PA) curbs the practice of imposing unfunded federal mandates on states and local governments. House Government Reform Committee approved H.R. 5 on Jan. 9. On March 14 by a 91-9 vote the Senate approved the conference report on S 1. On March 23, President Clinton signed S. 1 (P.L. 104-4).

S. 169 (Grassley, R/IA) curbs the practice of imposing unfunded federal mandates on states and local governments.

HJ. Res. 27 (Franks, R/NJ) proposes a Constitutional amendment barring federal unfunded mandates to the states. The House passed **H.R. 926** by a 415-15 vote. H.R. 926 is aimed at improving regulatory flexibility.

H.R. 1022 (Walker, R/PA) establishes risk assessment and cost benefit analysis procedures for major rules. It was passed by a 286-141 vote on February 28.

Mining

S. 504 (Bumpers, D/AR) amends the Mining Law of 1872 to impose a royalty on mineral operations and reform the process for mineral development. Senate hearing held on March 30.

S. 506 (Craig, R/ID) amends the Mining Law of 1872 to impose a royalty on mineral operations and reform the process for mineral development.

S. 639 (Campbell, R/CO) amends and reforms the Mining Law of 1872 to provide for the disposition of locatable minerals on federal lands.

Parks.

H.R. 260 (Hefley, R/CO) provides for the development of a plan and management review of the National Park System, and reforms the process for considering additions to the system. Approved for full committee action by House Resources panel on March 29.

H.R. 1280 (Hefley, R/CO) establishes guidelines for the determination of National Heritage Areas.

H.R. 1301 (Vento, D/MN) establishes the National Heritage Area Partnership Program.

H.R. 1449 (Roberts, R/KA) provides for the establishment of the Tallgrass Prairie National Preserve in Kansas.

Public Lands.

S. 93 (Hatfield, R/OR) amends the Federal Land Policy and Management Act to provide for ecosystem management on public lands.

H.R. 91 (Sensenbrenner, R/WI) prohibits the acquisition of land or waters for the National Wildlife Refuge System if wildlife refuge revenue sharing payments have not been made for the preceding year.

H. Res. 25 (Orton, D/UT) a resolution requesting that the Interior Secretary withdraw proposed regulations concerning right of way granted under section 2477 of the revised statutes.

S. 193 (Campbell, D/CO) establishes a forage fee formula on lands under the jurisdiction of the Agriculture and Interior departments.

S. 449 (Simon, D/IL) establishes the Midewin National Tallgrass Prairie in Illinois.

S. 518 (Thomas, R/WY) limits acquisition by the U.S. in states where 25% or more of the land is owned by the United States.

S. 629 (Thomas, R/WY) prohibits federal agencies from requiring that environmental assessments be required under the National Environmental Policy Act for the renewal of a grazing permit.

S. 636 (Daschle, D/SD) requires the Agriculture Secretary to issue new term permits for grazing on National Forest System lands to replace previously held grazing permits that have expired or will soon expire.

H.R. 1375 (Cooley, R/OR) provides for the extension of expiring term grazing permits for lands within the National Forest System.

Recreation.

H.R. 104 (Emerson, R/MO) rescinds the fee required for the use of public recreation areas at

lakes and reservoirs under the jurisdiction of the Army Corps of Engineers.

Refuges.

H.R. 1112 (Brewster, R/OK) transfers the Tishomingo National Wildlife Refuge to the state of Oklahoma.

Rivers

H.R. 1260 (Johnson, D/SD) ensures equity in and increased recreation and economic benefits from the Missouri River system.

Takings.

S. 135 (Hatch, R/UT) a bill to establish a uniform federal process for protecting private property rights.

S. 145 (Gramm, R/TX) provides for the protection of private property rights.

H.R. 9 (Archer, R/TX) creates jobs, enhances wages, strengthens private property rights and reduces the power of the federal government.

On February 16, the House Judiciary Committee approved **H.R. 925**, the Private Property Protection Act, and **H.R. 926** the Regulatory Relief Act.

H.R. 971 (Wyden, D/OR) ensures that homeowners have access to information and opportunities to comment on actions that may decrease the value of their home and establishes a compensation program for development that produces pollution or otherwise impacts home values.

Senate Judiciary Committee held a hearing April 6 on **S. 605**, establishing a uniform system for protecting property rights and compensating landowners adversely affected by regulations.

S. 605 (Dole, R/KA) establishes a process for protecting private property rights including paying compensation to landowners adversely impacted by federal actions.

Trails

S. 621 (Bennett, R/UT) amends the National Trails System Act to designate the Great Western Trails for potential addition to the trails system.

Water and Wetlands.

S. 49 (Stevens, R/AK) amends the Clean Water Act to provide for exemptions to wetlands regulations and the protection of property rights in Alaska.

H.R. 226 (Dingell, D/MI) amends the Safe Drinking Water Act to assure the safety of public water systems.

H.R. 198 (Smith, R/MI) amends the Food Security Act of 1985 to permit the conversion of wetlands that are one acre or less in size.

H.R. 961 (Shuster, R/PA) an omnibus bill designed to reform and reauthorize the Clean Water Act.

H.R. 1132 (Oberstar, D/MN) amends the Clean Water Act to provide for improved non-point source pollution control. House Transportation panel held hearings on the Clean Water Act on February 16, 21, 24, March 7 and 9.

House Transportation Committee on April 6 approved for floor action **H.R. 961**, amending and reauthorizing the Clean Water Act.

House Agriculture Committee held a hearing April 6 on agricultural wetlands and wetland issues in the 1995 **Farm Bill**.

H.R. 1262 (Pallone, D/NJ) amends the Clean Water Act to improve the enforcement and compliance programs.

H.R. 1268 (English, R/PA) establishes a comprehensive program for conserving and managing wetlands.

S. 626 (Hatfield, R/OR) amends the Watershed Protection and Flood Prevention Act to establish a technical assistance and grant program for waterways restoration.

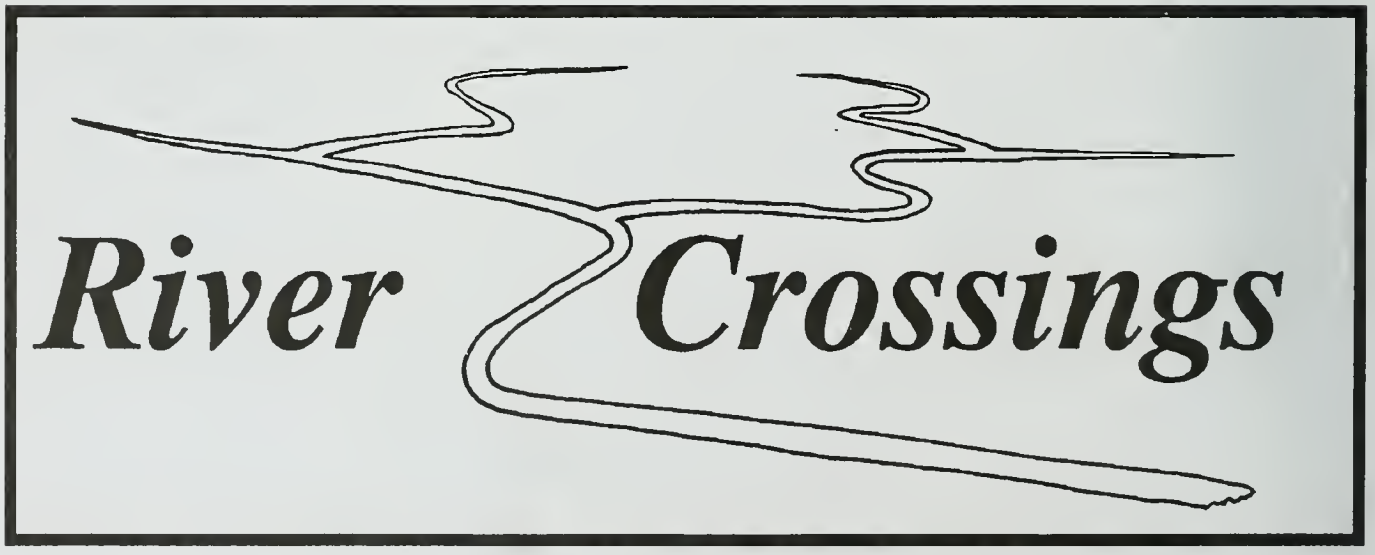
S. 639 (Warner, R/VA) authorizes civil works programs for the Army Corps of Engineers which preserves the navigation of channels and harbors and provides for flood control and storm damage reduction.

H.R. 1438 (Lowey, D/NY) amends the Clean Water Act to provide funding to the states for estuary conservation.

Source: Land Letter, Vol. 14, No. 8 and 11

"Have a wonderful summer!"

Mississippi Interstate Cooperative Resource Association
608 East Cherry
Columbia, MO 65201



River Crossings

Volume 4 | July/August 1995 | Number 4

We've Moved

The MICRA office has been relocated. None of our operations will change, we will simply be able to reduce travel time and increase our efficiency.

Our new address is P.O. Box 774, Bettendorf, IA 52722-0774. Our telephone and FAX number is (319) 359-3029.

Fisheries Conservation Executive Order

On June 8 President Clinton signed a precedent-setting Executive Order which (1) requires federal agencies to strengthen efforts to improve the quality of streams, rivers, and lakes supporting recreational fisheries; (2) establishes a National Recreational Fisheries Coordination Council (NRFCC); (3) requires the NRFCC to develop a comprehensive conservation plan; (4) requires development of a new policy to promote compatibility between the protection of endangered species and recreational fisheries; and (5) expands the role of the federally chartered Sport Fishing and Boating Partnership Council (SFBPC).

According to U.S. Fish and Wildlife Service Director Mollie Beattie, "The Executive Order opens up a treasure trove of possible partnerships that will benefit tomorrow's angling public." The Order directs federal agencies to identify degraded habitats and promote their restoration to increase fishing opportunities, acknowledging the key to accomplishing this task is through strong partnerships among federal, state, and tribal governments and the private sector, including landowners.

The NRFCC; consisting of representatives from the Environmental Protection Agency and the Departments of Interior, Commerce, Agriculture, Defense, Transportation, and Energy; will draft a Recreational Fisheries Conservation Plan setting forth a 5-year agenda for each of the cooperating federal departments and agencies. The NRFCC will ensure that federal agencies will consider the social and economic values of healthy aquatic resources that support recreational fisheries,

INSIDE THIS ISSUE

recommend ways to reduce overlapping federal programs, and increase information sharing.

The Order charges the Fish and Wildlife Service and the National Marine Fisheries Service to develop a joint policy to ensure consistency in administration of the Endangered Species Act, increase collaboration with other agencies and organizations, and increase outreach efforts on requirements of the Act.

The idea for the Executive Order came from the SFBPC, established in 1993 to advise the Interior Department on recreational fishing and boating issues. The SFBPC is comprised of 18 representatives from the private sector and state government agencies. The Order calls upon the SFBPC to monitor, review, and report federal activities affecting aquatic resources to the NRFCC.

Assigning Blame for Floods

The Dutch Environment Ministry blames deforestation, bigger fields, pesticides, and "ill-advised efforts to contain rivers in straitjackets by river architects and dam builders" for the massive January floods which devastated much of northern and western Europe. In the largest mass civilian evacuation since the North Sea walls burst in Zeeland in 1953 killing 1,800 people, 250,000 people were evacuated from the area of Gelderland province around the city of Nifjmegen and other areas of the Netherlands in January.

The "river architects" referred to by the Dutch Environment Ministry have been hard at work on European rivers for hundreds of years. In Germany, rivers have been straightened since 1830. The Rhine River, for example, has been shortened by nearly 130 km. As a result, Alpine snow melt and spring rains take only 30 hours to rush down from Basel to Karsruhe, half the time it took before the river was straightened.

As the clean-up continues, environmentalists warn of disgorged heavy metal residues left across vast tracts of agricultural land, and the possibility of petrochemical products leaching into the soil from lowland petrochemical plants. Dutch politicians are setting their sites on the country's rivers, which have been long neglected as Dutch attention was focused on coastal defenses. Prime Minister Wim Kok has called for a second "Delta Plan" of flood protection works.

Source: World Water and Environmental Engineering, March 1995.

New Crops for Flood Plains

Daniel Hines, executive director of the American Energy Crop Association (AECA), a group promoting farm interest in bio-energy, authored an article on that subject for the St. Louis Post Dispatch (6/16/95). Excerpts follow:

"Yogi Berra supposedly said: 'It's deja vu all over again.' That is a perfect description of the rains and flooding of sensitive plains along the Mississippi, Missouri and Illinois rivers in 1993 and this year."

But according Hines, "Some things are different this year. Sympathy for those suffering damage from the flooding is not as high as in 1993. Ironically, the group most adversely affected--farmers--is suspected of profiting from the

River Crossings

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P.O. Box 774
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River Crossings is a mechanism for communication, information transfer, and coordination between agencies, groups and persons responsible for and/or interested in preserving and protecting the aquatic resources of the Mississippi River Drainage Basin through improved communication and management. Information provided by the newsletter, or opinions expressed in it by contributing authors are provided in the spirit of "open communication", and do not necessarily reflect the position of MICRA or any of its member States or Entities. Any comments related to "River Crossings" should be directed to the MICRA Chairman.

deluge because of disaster payments they receive."

"Something else is different," Hines says, "--the realization that floods are a natural occurrence and that flood plains have an ecological benefit. That is why the Environmental Defense Fund and American Rivers want the Corps of Engineers to fund federal buyouts of farmland in flood plains rather than repairing levees. At the same time, representatives of large grain processors do not want more land, such as flood plains, to be removed from production. They instead favor additional plantings of traditional row crops in those plains as part of a cheap grain policy."

According to Hines, "Claims that increased plantings of corn improve net farm income is a myth. Instead it reduces net earnings as prices tumble because of overproduction. The best example is the low price (less than $2 a bushel at many elevators) for corn in 1994, when the harvest exceeded 10 billion bushels for the first time. A recent story in the Post-Dispatch cited the problems faced by farmers in getting a crop in the field. Clearly, if the farmer can't grow corn because of recurring bad weather, it is in his and fellow farmers' best interests to have diversified income opportunities from a variety of crops."

That is why the AECA "...supports new agriculture technology for renewable biomass energy from switchgrass and fast-growing woody crops", Hines says. "Already, biomass--in the form of ethanol from corn, diesel from soy--contributes to improved farm income, a reduction of our dependence upon imported petroleum and improved air quality."

According to Hines the AECA believes "...an even more important contribution of energy from agriculture lies ahead with the development of technologies to use switchgrass and fast-growing woody crops for transportation fuels and electrical power generation."

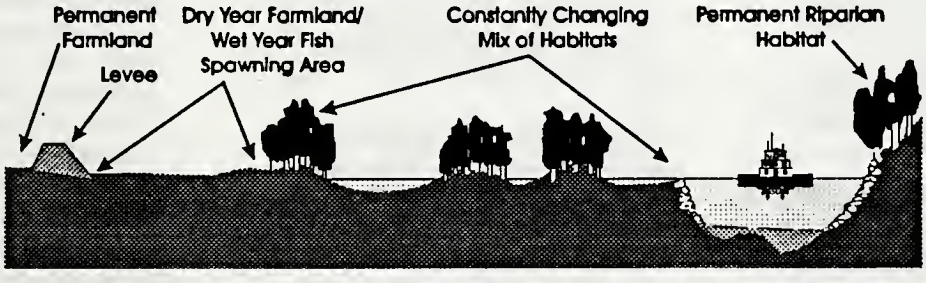
"Switchgrass is a native, fast-growing crop that once naturally covered much of the nation. It has a high energy value, and work is progressing by the Department of Energy and its contractors such as the Oak Ridge National Laboratory on the technology to convert it into ethanol and electrical power generation", Hines says.

"Fast-growing woody crops are hybrids of various types harvested in three to four-year cycles. They can also be used in ethanol production and electrical power generation...These crops require lower inputs of chemicals, materials, labor and capital than row crops. They withstand the damages of floods better than row crops, allowing the flood plains to fulfill their natural role. This, combined with the lower inputs of chemicals, decreases runoffs of pollutants. Furthermore they have a favorable environmental impact by providing improved wildlife habitats...Both crops are highly suitable for planting in the flood plains...That is why the floods offer an opportunity for an initiative to combine farmer needs with environmental goals and the energy requirements of the nation", Hines says.

Hines would like to see the St. Louis region be a leader in such an initiative. He says the AECA has proposals before several private and governmental organizations to convert much of the flood plains along the Missouri River to energy crops.

"The project could aid development of a domestically produced renewable energy source that has the potential to improve farm income. The knowledge gained will ensure a role for farmers in a new national energy strategy, as well as becoming an important part of the commercialization of new energy crops", Hines says. "At the same time", he says, "the diversified income opportunities from the new crops work to the advantage of farmers who otherwise would face depressed prices caused by overproduction."

"It's a win-win situation", Hines says. "We protect the environment. We decrease flood damage. Farmers gain more income opportunities. There is a favorable budget impact as disaster payments are reduced. Deficiency payments prompted by overproduction and low prices of row crops would be lower as lands are converted to new energy crops. The country takes one more step on the road to a domestically produced, renewable energy source, lessening our reliance upon imported petroleum."



Lands between setback levees could be managed to include wildlife habitat and production of floodplain compatible, income generating crops. Such crops also would enhance wildlife resources.

Source: St. Louis Post-Dispatch, 6/16/95

Buyouts Now Seen As Wise by Missouri Communities

Federal, state, and local officials in several dozen flood-prone Missouri communities saw the wisdom this spring of the acquisition and relocation projects they approved in the aftermath of the 1993 floods.

In the city of Arnold, MO (located approximately 25 miles south of St. Louis), for example, many houses were flooded again this year, but this time fewer families suffered. The people who used to live in 88 homes that were severely damaged in 1993 sold them and moved to safer locations to avoid another flood disaster.

Such purchases were funded by the Federal Emergency Management Agency (FEMA) and the Department of Housing and Urban Development (HUD), and administered by the Missouri State Emergency Management Agency (SEMA) and the Missouri Department of Economic Development. The homes--many of which had been flooded several times over the years--were purchased at pre-flood, fair-market value, thus giving these families the wherewithal to relocate in less hazardous areas.

The flood-prone properties, deeded to the city, are being demolished and the land is being turned into open space for recreational use--breaking the historic cycle of repeated destruction and rebuilding, while reducing the cost of federal and state disaster assistance.

Arnold's Community Development Director, Mike DeRuntz said that home owners who chose not to participate in the buyout program after the 1993 flood faced evacuation again this year.

SEMA Director Jerry Uhlmann noted that the buyout projects also benefit communities by reducing the cost of responding to flood emergencies. "Our municipalities incur high costs for protective measures like sandbagging and overtime for police, fire departments, state patrols and other emergency responders," he explained. "By reducing flood damage to populated areas, the buyout program is keeping these expenses down."

Arnold City Manager Eric Knoll estimates that a comparable prior flood would have cost $15,000 per day for flood-response expenses and required sandbagging operations in 16 locations. "Now, our expenses are only $5,000 per day and we have no need for sandbagging," he said.

According to John A. Miller, director of FEMA's regional office in Kansas City, MO, acquisition projects have been approved in 48 Missouri communities to date, involving over 4,000 individual properties. Total funding for these projects by FEMA, HUD and the state of Missouri will approximate $100 million, according to SEMA. Acquisition, relocation and elevation projects involving more than 8,200 properties have been approved in all nine states affected by the 1993 Midwest floods.

"Although the buyout program is not yet complete," Missouri Gov. Mel Carnahan said, "many families and communities have already experienced the positive impact of the buyouts. The (1995) flooding has served to sharpen our focus on mitigation efforts and the wise use of flood-prone areas."

Contact: Mark Stevens/Phil Cogan, FEMA, Washington, D. C. (202) 6464600, or Susie Stonner SEMA, Jefferson City, MO (314) 526-9136

Habitat Beads Not Levees

The 18-month Army Corps of Engineers study of the 1993 flood says it would cost billions to build enough levees to prevent widespread damage in future disasters. Along one stretch of the Mississippi River (from the mouth of the Missouri River near St. Louis to the mouth of the Ohio at Cairo, IL), the study estimated a $6 billion cost to build enough levees to prevent a flood of the magnitude that occurred in 1993.

"I have concluded that significant changes to the existing system of structural flood control projects are unlikely to be feasible," said Col. Richard W. Craig, commander of the Chicago Corps Division. In a letter to Congress, Craig said the study underscored the need to emphasize other ways to prevent flood damage, such as government buyouts in floodprone areas and improved flood insurance for buildings and crops.

The study will serve as the Corps' justification for making flood control decisions, said Dave Loss, study manager. "Most of the 1993 flood was followed by a lot of rhetoric about levees and flood control," Loss said. "A lot of the time, those statements weren't based on facts."

The Corps' study focused on about 3,500 miles of the upper Mississippi and lower Missouri rivers and their tributaries. A computer model was developed to estimate the flood impact of various alternatives regarding the levees. Along the Mississippi (south of Muscatine, IA) 70% of the River has agricultural levees on at least one bank. On the Missouri (south of Omaha, NE) the figure is 90%. The Corps' computer found that if the agricultural levees had been raised enough to prevent the 1993 flood along the Mississippi, the rivers would have been about 6 ft. higher at St. Louis. Along the Missouri, raising the levees would have increased flood heights almost 7 ft. at Waverly, MO, and an average of 3-4 ft. elsewhere. "If the levees are raised, you'll essentially put St. Louis under water," said

Scott Faber, Director of Flood Plain Programs for American Rivers.

If the same levees were removed, the flood waters would have been 2-4 ft. lower along the Mississippi and up to 3 ft. lower along the Missouri. If, however, the banks contained more natural forest, the flood levels would not have changed as much.

According to computer modeling, if levees are set back to let the rivers spread out at least 5,000 ft. In a flood all towns along the Mississippi River would have experienced lower flood levels, while along the Missouri there would have been an equal number of slight increases and decreases.

The Corps report also stated that, "Restoration of a series of natural flood plain patches (a string of beads) connected by more restrictive river corridors would be practical and beneficial". This habitat bead concept, referred to by the Corps, is one that was developed by a group of international scientists (lead by Dr. Robin Welcomme of the United Nations Food and Agricultural Organization in Rome) at the "Large Floodplain River Management" symposium held in LaCrosse, WI last summer by the National Biological Survey.

The habitat bead concept was further developed in a series of graphics and has been promoted by MICRA Coordinator/Executive Secretary Jerry Rasmussen in *River Crossings* and several scientific and technical publications prepared over the past year. A typical "Habitat Bead" is shown in Figure 1. Contact the MICRA office for further details.

Source: Associated Press article In The Kansas City Star, 7/1/95

Attorney General Supports Buyouts/Habitat Restoration

In a July 5th letter to Dr. John Zirschky, Acting Assistant Secretary of the Army for Civil Works, Jay Nixon, Attorney General for the State of Missouri, suggests that "Some of the flood-damaged land could have been put to good use mitigating the adverse environmental impacts of system operations on the Missouri River ecosystem. A fair price for flood-damaged land could have helped many Missorians relocate their farming operations and avoid damage this year as well."

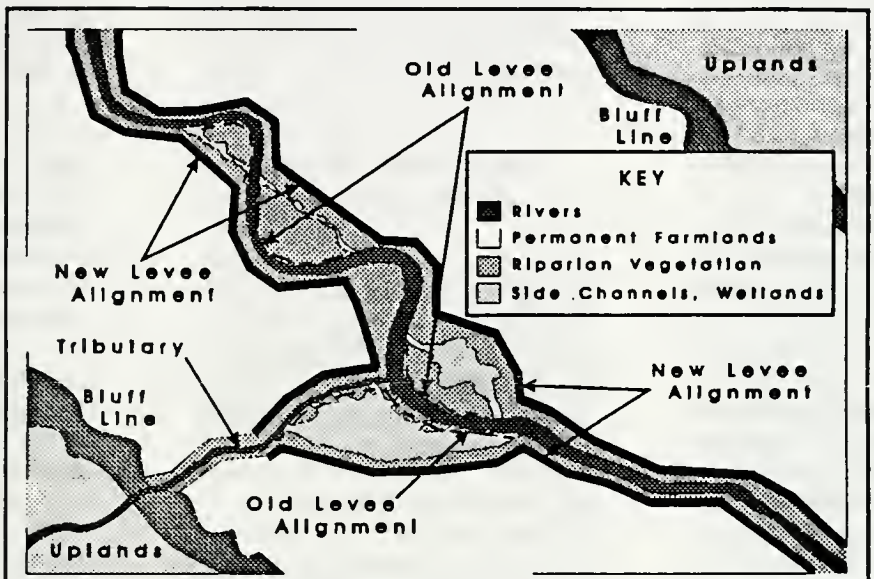


Figure 1. A typical flood plain river "habitat bead", stretching over a 4-5 mile river reach, incorporating a mix habitats that are subject to change with each major flood event.

"Unfortunately", Nixon says, "the Corps' efforts were thwarted by the rigid policy that it would not pay more than post-flood appraised value for the land...Instead of purchasing flood-damaged land for a fair price, the Corps wound up repairing most of the failed levees, some of which failed again this year. Without a change in policy, the cycle will continue."

Nixon calls the Corps' policy limiting payment for flood-damaged land to the post-flood appraised value "counterproductive". "I am not recommending that the Government pay more than what the land is worth, I am simply recommending that the Government reevaluate its appraisal methods and consider authorized alternatives which will result in more successful environmental mitigation and restoration", Nixon said.

"First, relying on crude appraisals of flood-damaged land is appropriate if a landowner is planning to build a residential development or some other for-profit concern, but one cannot put a pricetag on habitat", Nixon said. "The river's inherent value as an ecosystem is barely beginning to be understood and cannot be reflected in a cold, mechanical appraisal", he said.

Nixon goes on to say, that "...a standardized appraisal does not take a tract's intrinsic value as "flood space" into account". "Land between primary and secondary levees could have substantial flood control value if managed as flood space. Utilizing available flood space would reduce the damage to private property by keeping river levels lower when the river floods. Reducing flood damage with natural solutions like acquiring flood space from willing sellers would benefit everyone in the long run", Nixon says.

Public Law 84-99 authorizes the

Corps to repair levees. "The Flood Control Act of 1938 authorizes the Corps to "evacuate" an area instead of repairing a levee so long as the evacuation does not 'substantially exceed' the repair costs", Nixon says. Nixon believes the Corps "should interpret these laws to allow the Corps to use 84-99 funds to buy flood-damaged lands from willing sellers." He also suggests that 84-99 funds be used, "...to make evacuation payments above the appraised values which could be paid from mitigation funds. This would allow the Corps to pay willing sellers a more realistic price for their land and ultimately obtain more land for habitat improvement...the cost-benefit rationale behind these laws", Nixon says, "is well-supported by this suggested interpretation". "When you start to add up the potential future repair costs for the same levees, evacuation makes even more sense. It shows why Congress made the policy choice that it did", he says.

Nixon says that "the suggested interpretation is consistent with the public interest, and that there is no legal reason preventing the Corps from adopting this interpretation". He stressed that this concept should only be used in connection with purchases from willing sellers.

"Finally, the government should do something to truly offset the losses to the local tax base that would result from the sale of productive farmland to the government", Nixon says.

He suggests that the Corps will have greater success in restoring lost habitat on the Missouri River if 84-99 funds are used to "sweeten the deal" for Missouri landowners who cannot afford to sell at post-flood appraised values. "This program could be offered as a one-time opportunity for a landowner to sell and receive a cash benefit above their land's appraised value," Nixon says.

Attorney General Nixon's initiative, supports many of the recommendations of the White House Floodplain Management Review Committee (Directed by BG Gerald Galloway, USACE Retired), and those we have been promoting in *River Crossings*.

If we all work together on this, perhaps we can find a win-win situation for everyone involved on the Missouri and other large floodplain rivers.

House Blocks Study of Navigation Locks

The U.S. House of Representatives on July 12 approved an $18.7 billion bill for energy and water programs in FY96, including a block on further funding for an Army Corps of Engineers study of the Mississippi River. In a move "hailed" by environmental interests, Rep. Steve Gunderson (R/WI) amended the bill to block the Corps from spending any more money to study the expansion of 16 locks and dams on the Upper Mississippi between Minneapolis and Moline, IL.

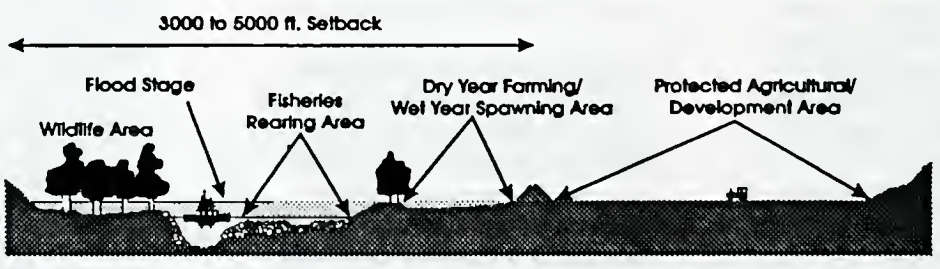
The Corps began a six-year study in 1993 to determine if it needs to triple the barge-handling capacity of many old locks. If the reconstruction project were approved, it would be one of the nation's biggest public works programs ever and could cost taxpayers more than $5 billion. Enviros contend that the 29 locks and dams between Minneapolis and St. Louis have altered the Mississippi's "natural processes and accelerated the decline of its fish- and wildlife-rich backwater lakes and marshes."

The bill still provides $6 million for the study, but if the Senate concurs with the House, the study will be limited to the area between Moline and St. Louis and won't stretch to Minneapolis. The complete Corps study is expected to cost more than $44 million.

In a December 27, 1994 letter to Al Ames, Maritime Administration in Des Plaines, IL, Steve Johnson Minnesota's River Management Supervisor, described Upper Mississippi River environmental concerns:

"...our society has profoundly changed the Mississippi River environment in order to accommodate commercial navigation. Those changes had significant benefits to our society, but they set in motion an inevitable series of events that will—without question—lead to the ecological collapse of the Upper Mississippi River."

'...When we constructed side channel closing structures and wingdams in the latter part of the 19th Century, we locked the river's channel in one place and prevented the river from naturally rearranging..." its habitats. " We were left with whatever habitat existed at that time, and began a very gradual decline in habitat



Setback levees provide space for flood water storage and conveyance (reducing flood stage on adjacent lands), while meeting many of the needs for ecosystem management.

value as diversity slowly declined."

"In the 1930s, we constructed a series of locks and dams that created a series of reservoirs. This almost instantly reduced habitat diversity, but it did greatly enhance certain types of habitat and the results were initially beneficial for certain species...The environmental consequences of constructing reservoirs on rivers produce an inevitable series of events that have been well-documented throughout the world. Sediment no longer flushes naturally through the system, accumulating in the slow-moving pools behind the dams. The great bathymetric diversity that existing in the natural system gradually disappears as sedimentation turns the river pools into flat, shallow, lakes. Without the natural drawdown effect of droughts that typically occur every 20-30 years, the vegetative succession process that naturally occurs on a river doesn't renew itself, and aquatic vegetation eventually disappears. The shallow, windswept lakes that account for a growing portion of the river's area remain too turbid for vegetation or aquatic insects–the base of the food chain. Without vegetation to reduce wind-fetch, waves pound against islands and gradually destroy them. Eventually, the river's environment–outside the maintained navigation channel–becomes a shallow, turbid, lifeless lake, and the ecosystem collapses. That process, which is inevitable, is gradually playing itself out on the Mississippi River. We don't know if we are five years or 75 years away from the point of collapse, but we know for certain that it is coming."

"It is this profoundly disturbing problem that is at the heart of the current concerns of the natural resource agencies responsible for managing the Upper Mississippi River. It is not so much the daily movement of towboats on the river that are of concern in talking about the environmental impact of navigation, but the changes we have made to the river to accommodate those boats."

"...At this point, we recognize the economic importance of the navigation system--particularly to the State of Minnesota–so somehow doing away with the navigation structures that are harming the river environment is not an option. But allowing the ecological collapse of this great river is also not an acceptable option. This leaves us with a very large problem that has no apparent solution. But we must find a solution, and that's something all of us must do together..."

Source: Greenwire Vol. 5, No. 52 and letter from Steve Johnson, Minnesota DNR, St. Paul to Al Ames, Maritime Administration, Des Plaines, IL, 12/27/94

Tenn-Tom at Ten

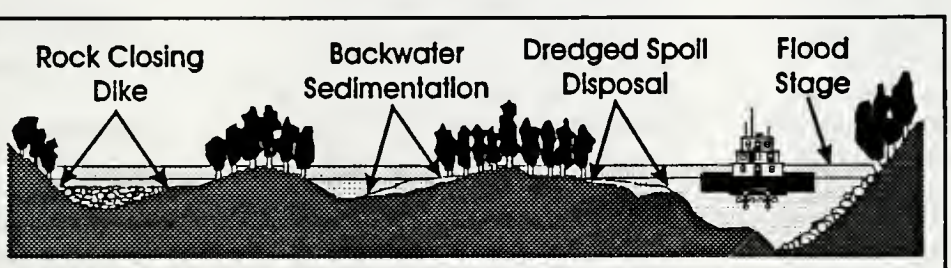
The Tennessee-Tombigbee Waterway Project (Tenn-Tom), the largest public works project in the nation's history, was justified by predictions that it would carry 27.3 million tons of commodities a year. In its first 10 years, it has averaged only 5.7 million tons a year, peaking at 9.9 million tons in 1988 when a drought shut down the Mississippi River.

Construction began in 1972, working simultaneously at both ends and in the middle. It was a massive undertaking–enough dirt was moved making the cut between the Tennessse River and Bay Springs Lake to build a 16-foot-wide, 3 inch-thick road from the Earth to the Moon. When the channel had been carved and the series of 10 locks and 5 dams were completed (20 months ahead of schedule) total cost of the project reached $1.9 billion.

By the time the first barges traversed the length of the waterway (January 1985), it already was apparent that the Tenn-Tom was not going to live up to expectations. The Waterway had been pitched in the energy starved late '70s and early '80s as an ideal shortcut for moving coal from the Appalachian coal fields to the Gulf for export. But by the time it opened in 1985, the energy crisis was gone and a recession was underway.

However, the project has enjoyed increasing tourism according to the Tennessee-Tombigbee Waterway Development Association (TTWDA). The TTWDA estimates that about 8 million people visited the waterway for recreation or tourist purposes last year, injecting about $170 million into local economies. The waterway has also attracted thousands of "transient" boaters, usually large yachts from northern states that use the waterway to get to Florida in the winter and back home in the spring. "That's a bonus to marinas that were built just to take care of local demands," Don Waldon, TTWDA director said.

Pat Robbins (Public Relations Director for the Mobile Corps of



Slackwater navigation projects impound rivers, creating short-lived backwaters and wetlands which soon fill with runoff silts and dredged spoil from navigation channel maintenance.

Engineers District) said that all of the recreational developments the Corps plans for the waterway have been completed, and the Corps had advertised for proposals to build a $10 to $15 million resort on the waterway in Tishomingo County. One such proposal was withdrawn when investors learned that Tishomingo is a dry county.

According to Waldon, $1.7 billion in new industrial development has occurred since about 1989," and in recent months, British Steel has announced a $100 million investment in Mobile and TRICO Steel has announced a $320 million steel recycling plant in Decatur, AL, both citing the Tenn-Tom as a major reason for the locations.

However, development officials and commercial users now fear that the Alabama sturgeon could do what years of legal wrangling by environmentalists failed to do - shut down the Tennessee-Tombigbee Waterway.

sturgeon

Last year the U.S. Fish and Wildlife Service proposed listing the species on the endangered species list, setting off a firestorm of debate. If the fish, believed to inhabit the Alabama River and possibly southern portions of the Tenn-Tom system, is declared endangered and its habitat ordered protected, waterway supporters say the U.S. Army Corps of Engineers would have to stop dredging around that habitat. They fear the resulting silt buildup would eventually make the channel too shallow for commercial traffic.

In December, Secretary of the Interior Bruce Babbitt refused to place the Alabama sturgeon on the endangered species list, saying there was a lack of scientific evidence that it was a distinct species. But the U.S. Fish and Wildlife Service continued to search for specimens, a move that angered many Tenn-Tom supporters. In the meantime Congress imposed a six-month moratorium on adding new species to the endangered species list

According to Vicki Boatwright, Assistant Regional Director in the Fish and Wildlife Service's Atlanta office, "On April 18, a fisherman captured a sturgeon near the Claiborne Lock and Dam on the Alabama River." Samples were sent off to two private labs for DNA analysis. While tracking that fish, on May 19 Fish and Wildlife Service biologists captured another specimen. Samples from that fish are being tested also. "At this point, there's nothing happening in terms of proposing the fish for future listing as an endangered species," Boatwright said.

According to Waldon, the threat of an endangered species listing has scared off Tenn-Tom industrial interests because of the possibility of the waterway closing to barge traffic because of the sturgeon. TTWDA estimates that closing the waterway would cost 19,000 jobs. But Boatwright disagrees. She said, even if the Alabama sturgeon is protected on the Alabama River, it shouldn't affect traffic on the Tenn-Tom.

Corps official Pat Robbins said that "...depends on how it is declared and what is designated critical habitat," But Boatwright said her agency has agreed all along that any listing should be compatible with the waterway's use. "We concluded that because we worked with the U.S. Army Corps of Engineers and they said channel dredging and maintenance would have no effect (on fish habitat) and would not be eliminated," she said, "We concurred."

Source: By-line article by Marty Russell in the Northeast Mississippi Daily Journal, 6/3/95

White River Diversion

It is estimated that ground water can only sustain 7% of the total water needs of Arkansas's Prairie and Arkansas counties. A project to meet water needs of the area calls for an additional 12,000 acres of reservoirs (28,000 total acres), creation of 218 miles of new canals and 156 miles of pipeline, and utilization of 290 miles of new stream channels. Numerous channel structures including gates and weirs would provide control. A 1,800 cfs pumping station on the White River would drive the system.

While the need for water to support the area's agricultural industry is real, concerns include the precedent being set by diversion of a significant portion of White River flow, larval fish entrapment and entrainment, accumulation of heavy metals, introduction of zebra mussels into new areas, fish migration, alteration of species composition, transfer of genetic stocks across watersheds and alteration of stream flow regimes and habitat.

Dewatering of streams in this area is already a problem, so an upside to the project is that it could possibly prevent total dewatering of local streams. Obviously input is needed to help identify problems associated with this project and to suggest alternatives that would be less environmentally harmful.

Source: Arkansas River Conservation Committee Newsletter, July 16, 1995

Big Sunflower River Mussels Threatened

According to a June 21 letter from the American Fisheries Society/Freshwater Mollusk Subcommittee (AFS/FMS) to Colonel Stanley Phernambucq, Vicksburg District Engineer, a proposed Army Corps of Engineers dredging project

(designed to reduce floodplain flooding) on the Big Sunflower River (BSR) in Mississippi would significantly impact the river's rich freshwater mussel resources.

The AFS/FMS made the following points:

1. Maintenance dredging, such as proposed by the project, has done little to mitigate flooding in other areas. In fact, dredging tends to encourage head cuts, increase bank sloughing and increase erosion upstream of dredged river reaches.

2. The alleged loss of BSR channel design capacity attributed (by the Corps) to vegetation growth and sediment accumulation, is likely more a reflection of 30 years of land use manipulation and watershed changes. The primary land use in the BSR drainage is agricultural (e.g., cotton, soybeans, and catfish), many of which have been converted to agriculture over the past 33 years. This has led to construction of numerous farm ditches and drains designed to rapidly move water from farms to stream and river channels. Increased flows in the BSR are likely a reflection of these changes (i.e. deforestation, stream alterations and other surface channel manipulations by local farmers), rather than significant sediment deposition in the channel. The high densities of freshwater mussels in the BSR's main stem support this alternative explanation, since these organisms are highly sensitive and susceptible to sediment aggradation, and significant sediment deposition would have reduced their densities.

3. The $50 million maintenance cost to benefit relatively few riparian landowners seems unjustified. The purchase of affected agriculture lands, or compensation to landowners (e.g., the annual interest on $50 million), may be viable alternatives and more permanent solutions than the proposed dredging project.

4. An estimated 8-10 million mussels will be eliminated by the project.

5. Proposed mussel mitigation measures are small in scale compared to the anticipated basin-wide damage to mussel communities. They are also experimental in nature, with no assurance of success, and therefore not a replacement for the massive destruction of mussel habitat.

6. The zebra mussel, widespread in the lower Mississippi River and in other rivers supporting commercial navigation, is currently being spread upstream by infested commercial barges and recreational boats. There is no evidence of zebra mussels moving upstream in tributaries on their own. Without commercial navigation or numerous recreational boaters to transport adults upstream, a river will not become significantly infested. Proposed dredging of the BSR by dredge barges, likely coming from zebra mussel infested waters, will promote boat traffic far upstream from the Yazoo River, and allow the zebra mussel to penetrate upriver reaches that likely would, otherwise, remain unavailable to infestation. River boaters and all users of raw river water will, consequently, be subject to the economic costs of zebra mussel infestations on their boats, motors, intake pipes, and other equipment directly exposed to BSR water. This is a potentially costly result from the proposed channel dredging.

7. The mussel resources of the BSR, with at least 31 species, is an important national resource, economically valuable, renewable, and residing in one of the remaining U.S. rivers likely not subject to invasion by zebra mussels.

In conclusion the AFS/FMS questions the spending of $50 million to dredge the BSR and destroy much of its mussel resource and habitat, while at the same time spending millions of dollars elsewhere to conserve and protect mussel species already endangered, or likely to become so because of the zebra mussel.

"The conservation of aquatic ecosystems and biological diversity are national priorities that should not be disregarded for local projects of uncertain economic and unacceptable ecological value, when less destructive and more cost beneficial alternatives may be available. The limited reduction of seasonal flooding in the BSR does not justify the high direct and indirect costs of this federally funded project."

Contact: Dr. Richard J. Neves, Chairman, American Fisheries Society, Freshwater Mollusk Subcommittee, 5410 Grosvenor Lane, Suite 110, Bethesda, MD 20814-2199

Zebra Mussels as Water Filters

Researchers in Milwaukee, WI, are looking for ways to turn zebra mussels into cheap and efficient filters for municipal water treatment plants. In a laboratory experiment, three units roughly the shape and size of inverted vacuum bottles were attached end to end to form a filter. Each was packed with zebra mussels. The test demonstrated that zebra mussel filters can reduce the amount of *Cryptosporidium* injected into harbor water by more than 95%.

The zebra mussels also were found to have reduced coliform bacteria by 69%,

zebra mussel

almost every other kind of bacteria in the water by 75%, and to have strained virtually all the particulate matter out of the water. Zebra mussels have been used in Europe, especially the Netherlands, for clearing murky lakes and ponds. The Dutch grow the zebra mussels on racks and lower them into the water.

In a full-scale filter that Kaster envisions for a municipal water plant, the zebra mussels would be housed in a large, dome-like structure covering the intake pipe. Kaster projects the cost of building and installing one filter at $100,000.

Kaster, who plans to seek a grant from the American Water Works Association said he already has set up an experimental zebra mussel filter at an undisclosed Wisconsin waste-water treatment plant.

Source: WaterWorld 11(4),June 1995

Barnyard Filter Strips

A 1993 study of barnyard filter strips in eastern Wisconsin has shown that fewer than half remain functional 10 years after installation. The study raises important questions about farmer attitudes toward barnyard waste management systems and the need for strategies to ensure that such systems are maintained over an extended period of time.

The study says that "dismanagement" or the deliberate misuse or destructure of part of a manure management system, was the primary cause of their failure. This situation was found at 11, or 46%, of the observed failed filter strips. The primary types of dismanagement were overloading caused by broken out retaining walls and the pasturing of filter strips. The study also found that wood walls generally appeared to be a poor design for barnyard manure management systems.

Of the systems that included wood walls, the wood in over 70% of these systems was either broken or rotted. Damaged wood walls generally had not been repaired and treated wood appeared to be unreliable for a 10-year period. The study also found sieve walls were generally not successful designs because they plugged up during rain events and farmers reported getting fed up with the constant attention they required after rain storms.

Filter strips with spreaders or similar structures that served to evenly distribute runoff across the filter strip also had a relatively high functional success rate.

Rock Anderson, field specialist conducting the study, said systems difficult to operate and manage don't get managed and have a poor chance of being effective for their functional life-span. Anderson recommended a follow-up study of systems consisting of more durable, concrete walls.

In general, well designed and well installed systems seem to do a good job of removing solids from runoff. Whether or not nitrogen is removed is a question that needs to be answered by more technical analyses. If most of the phosphorus is contained in the solids, then the filters are probably doing a reasonable job on phosphorus retention.

Regarding filter strip configuration, Anderson noted, "The length of the strips is more important than the width in determining their degree of function. Even with careful construction, the prevalent flow pattern is a shallow, meandering through the area. Adequate length is important to ensure that adequate contact exists. Extra width is seldom valuable in adding to an adequate contact time."

Anderson said that the study's results should not be interpreted as an indictment of the practice. "Any conservation practice can be mismanaged," he said. "While I found that a majority of the [filter strips] were nonfunctional at the time of the study, my conclusions were that filter strips work when maintained according to recommendations."

Source: *Keeping Current*, University of Wisconsin, Extension Services.

Contact: Rock Anderson, Wisconsin Department of Agriculture, 1011 North Lindale Dr., Appleton, WI 54914, (414) 734-2061.

Grazing Issues

A coalition of ranchers and grazing interests (Public Lands Council, American Farm Bureau Federation, National Cattleman's Association, American Sheep Industry Association, Association of Natural Grasslands, state affiliates and individual ranchers) filed suit in federal court in Cheyenne, WY on July 27 to block the Interior Department from implementing an overhaul of grazing regulations on federal lands in Western states.

Scheduled to go into effect on August 21, the Interior Department's plan would establish advisory councils from "diverse interests," require regional "ecological health standards" and "encourage" ranchers to practice "more stringent conservation." The

new rules do not include the higher grazing fees, originally supported by the Clinton Administration.

The rancher's coalition said they have no choice but to sue the Interior Department in order to save the Western communities, wildlife, homes, and businesses of thousands of ranchers who would be put out of business by the regulations.

On a related issue over 50 conservation organizations and individuals are asking the Forest Service (USFS) to conduct a comprehensive environmental study of the effects of cattle grazing on the West's national forests. The Southwest Center for Biological Diversity (SWCBD) and the Oregon Natural Resources Council led the coalition in sending a letter on July 24 to USFS Chief Jack Ward Thomas.

The letter details scientific studies showing that livestock grazing is a "major factor in creating dense stands of trees highly vulnerable to disease and catastrophic wildfires". Studies have been done for specific areas in the past, but the groups are asking that the USFS look at grazing effects throughout the West.

The USFS expects environmental groups to appeal every grazing lease on Western forest lands that the agency will renew this year. Currently, agency officials are compiling environmental assessments for about 800 grazing permits throughout the West. Those assessments must be completed by December, when the current permits expire.

In Idaho, ranchers seeking to lease state lands for grazing now find themselves bidding against enviros who want to preserve the range. However, even though environmentalists have been offering more money for the leases, ranchers keep winning.

Jon Marvel, an architect who leads the Idaho Watersheds Project, has outbid ranchers in public auctions four times. But each time the Idaho Land Board has overturned the auction's result, "arguing that Idaho has an economic interest in aiding ranchers." Critics say that officials are "violating a public trust in bypassing the higher bids." A lower court ruled in favor of the Land Board, but the matter is now pending in the state supreme court.

Grazing disputes are also before courts in Oregon and Arizona. Similar court battles forced Oklahoma to begin competitive

bidding for leases in 1982. "Since then, endowment money has nearly doubled, with no apparent ill effects on ranching." Keith Kuhlman, director of real estate management for Oklahoma's Commission of the Land Office said, "We heard a lot of the same things -- There will be rampant bankruptcies and so forth, but we never really saw that."

"Few issues on the Clinton administration's environmental agenda have proved as troublesome or as politically explosive as public lands grazing." Although grazing affects "relatively few" people in the west -- only 29,000 ranchers using 270 million acres of federal land -- "it has become a metaphor for the administration's broader natural resources agenda and a rallying cry" for Clinton opponents in a region that could prove "critical" for his re-election.

Sen. Pete Domenici (R/NM) and Rep. Wes Cooley (R/OR), sponsors of the Livestock Grazing Act, say if their bill is not implemented by August 21, they will seek to block Interior's grazing plan.

Bills in the Senate (S. 1031 Thomas, R/WY) and House (H.R. 2032 Hansen, R/UT) would transfer lands administered by the Bureau of Land Management (BLM) to the states. The legislation would offer states an "all-or-nothing" opportunity to take control of BLM lands within their borders, and allow a ten-year period for the transfer. Opponents of the measure fear that states not having the resources to manage such large tracts of land would end up selling them and that the measure would end up giving away the public's land to wealthy corporations. Those ranchers holding grazing permits would likely have "the right of first refusal" if the lands were offered for sale.

Source: Greenwire Vol. 5, No. 24, 56, 58, 60, 61, and 62

Pasture Pump Keeps Cattle out of Clinch River

Virginia Farmers and the Nature Conservancy are keeping cows out of Clinch River habitat by utilizing a novel device which allows cattle to water themselves without getting into the stream. Fred Kiser, a farmer in the watershed and a director of the local Soil and Water Conservation District, with funding from The Nature Conservancy and the state of Virginia, has installed a pasture pump to water his grazing cattle. The pasture pump lets livestock pump their own water

from the creek into a trough away from the streambank.

Requiring no electricity, the pump relies on the pressure of the cow's head against a lever to begin operation. Each push of the head yields about a pint of water.

With the help from the Virginia Department of Conservation and Recreation and the U.S. Fish and Wildlife Service, The Nature Conservancy is helping farmers establish alternate water sources for cattle. It also restores native vegetation to streambanks in Virginia's Clinch and Powell river drainage and funds the building of fences to keep cattle out of streams.

The Nature Conservancy has targeted the watersheds of the Clinch and Powell rivers as part of an ambitious ecosystem conservation program called, "Last Great Places: An Alliance for People and the Environment." The Clinch Valley Bioreserve encompasses the watersheds of the Clinch, Powell, and Holston rivers, extending more than 2,200 square miles across seven southwest Virginia counties and into Tennessee.

Kiser described what happened to his creek when his cattle watered in it directly: "The whole bank had been eroded down...over a period of time they just tramped down the whole side of the stream and the creek bank." That erosion not only dirtied the cattle's drinking water, but also fouled the runoff flowing into a nearby cave system and ultimately into the Powell River, a critical part of the Clinch Valley Bioreserve. Kiser pointed out, "What's occurring in all these little streams is important farther on down."

The Clinch and Powell rivers are the last remaining undammed and unspoiled headwaters of the Tennessee River system. Their watershed is, according to the Conservancy, the most ecologically diverse region of Virginia and contains hundreds of rare species. The Virginia Chapter of The Nature Conservancy is currently enacting a comprehensive conservation strategy for the region that includes land acquisition, research, economic development, and community needs.

Contact: Bill Kittrell, Clinch Valley Bioreserve Project, 102 South Court Street, Abington, VA 24210, (703) 676-2209.

Hog Waste

A yet-to-be-released study on the disposal of hog manure shows that hog farmers in six of the seven biggest pork-producing states were fined 78 times for waste spills from 1992 through 1994. Chris Novak, National Pork Producers Council (NPPC) director of environmental services said, the results from the study will be used to educate pork producers about "common problems" associated with disposing of hog manure.

The study looked at 15 states altogether. North Carolina registered 43 penalties, while 17 producers in Iowa were fined. In the wake of recent spills in those two states, new attention has focused on the safety of hog disposal facilities, such as huge manure storage lagoons.

On July 10 some 20 water-quality officials began a "blitz" inspection of hog-waste lagoons on North Carolina's 2,500 hog farms. Governor Jim Hunt (D) on July 5 ordered stepped up inspections after three waste lagoons broke in three weeks. The state's largest hog-waste spill occurred on June 21 at Oceanview Farms in Haw Branch, spilling 25 million gallons and killing fish in the New River. The spill, the worst of its kind in North Carolina history, was caused by the collapse of a dike surrounding an eight-acre hog-waste lagoon. "Knee-deep red, soupy waste rushed over roads and tobacco and soybean fields...until the waste lagoon, which is 12 feet deep and held waste from more than 10,000 hogs, was virtually empty." The spill also killed fish and threatened shellfish beds downstream.

The North Carolina state legislature on July 11 ratified a bill that would require new hog farms to be located at least 1,500 ft. from residences and 2,500 ft. from schools and churches. A related measure, which would require training and certification for operators who apply hog waste to fields, has passed the Senate and been approved by the state House Rules Committee.

In Iowa, a 1.5 million gallon hog-waste spill has "reignited a fiery debate over the environmental impact of large-scale hog facilities." On July 15, a manure storage system near Blairsburg, IA developed a leak, spilling waste into the Iowa River, clouding the water with "a thick, dank foam for several days" and killing thousands of fish.

Officials with the state Dept. of Natural Resources attributed the spill to faulty construction of a waste lagoon. Hog farmer Carroll Nearmyer said, "The DNR needs to do a better job of cracking down on hog factories. These facilities are ruining the environment and deserve more than a slap on the wrist".

Despite the spill, lawmakers said on July 21 that "it was doubtful many changes would be made to laws drafted this year relating to large-scale livestock production." Brent Halling, president of the Iowa Pork Producers Assn., argued that guidelines adopted this spring by the Iowa legislature would have prevented the accident, but the rules haven't yet been implemented.

Sen. Charles Grassley (R/IA) on July 26 said the federal

government may have to change tax and antitrust laws to "restrain the growth" of large pork operations in Iowa, North Carolina and elsewhere. He said that when the Clean Water Act is revised later this year, hog farmers will be subject to the same water quality standards as everyone else.

Greenwire Vol. 5, Nos. 40, 51, 59 and 62

Ecological Restoration in the Platte River Basin

Agricultural development, gravel mining, and sandpit housing developments have collectively decreased the Platte River ecosystems biological diversity, degraded the river channel, lowered the water table, and generally made the land drier. In the 1980s, the Prairie Plains Resource Institute (PPRI) planted a series of small, private grassland restorations as part of a greenway now known as the Lincoln Creek Parkway project.

PPRI, an educational land trust located in Aurora, Nebraska, was founded to do prairie preservation, restoration, and environmental education. The Lincoln Creek Parkway Project included planting six small sites--most of them less than an acre--with more than 70 grass and forbe species.

A decade later, PPRI, in cooperation with the Platte River Whooping Crane Habitat Maintenance Trust and The Nature Conservancy (TNC) Platte/ Rainwater Basin Project Office, supported by the U.S. Fish and Wildlife Service and an EPA 319 water quality funding grant, engaged in a project to plant more than 300 acres of Platte Valley land to high-diversity grassland.

As PPRI's early plantings mature, so does the technical experience of the planters. PPRI has developed nine objectives related to grasslands restoration and techniques: (1) developing a mobile seed harvester, (2) testing methods of seedbed preparation, (3) determining the efficacy and cost of wetlands creation or enhancement, (4) establishing seasonal routines for monitoring and for harvesting seeds, (5) securing seed cleaning equipment, (6) founding a greenhouse for seedlings propagation, (7) maintaining a series of plantings with increased quantities each year, (8) documenting each project, and (9) engaging and training volunteers and other citizens. They are now being tested in the larger Platte River project.

TNC's goals are to (1) convert 150 acres of cornfields now dependent on agricultural chemicals to native grasslands; (2) compare a low-diversity mix of six commercial grass species with a restoration based on PPRI's high diversity nontraditional plantings (splitting

the acreage 50-50); (3) discontinue irrigation permanently, and use recyclable windmills to enhance water quantity; (4) enhance the quantity of groundwater and surface runoff by enjoining the use of agricultural chemicals; (5) slow runoff and enhance water retention by restoring the grasses and mechanically enhancing the historic slough channel; (6) manage the grasslands through grazing; and (7) begin long-term research on soils and soil organisms, water quality, and ecological dynamics of the restoration site.

Although these efforts are small, says William S. Whitney of the PPRI, "The way forward is to keep going on. It's to show that if a few hundred acres can be restored; why, then, so can thousands." Over the years, agriculture and commerce, urban sprawl, and a string of dams upriver have all made claims on the grasslands. An integrated corridor planning paradigm is needed, Whitney says, to outline acceptable land uses and work with the rural economic development process, while we proceed on an even greater scale with grasslands restoration.

Contact: William S. Whitney, Prairie Plains Resource Institute, 1307 L Street, Aurora, NE 68818, (402) 694-5535.

Source: NonPoint Source News-Notes, June 1995, Issue #41

Cars Helping Trout

According to an article in *Keeping Current*, a newsletter published by the University of Wisconsin Extension Water Resources Coordinating Council, Ken Vance's new car dealership in Eau Claire, Wisconsin, is gaining national attention for the stormwater best management practices incorporated into its design.

The dealership sits within the Lowes Creek watershed and serves as a Wisconsin Priority Watershed Demonstration Project designed to improve water quality in the nearby creek. Vance's car lot demonstrates a number of on-site stormwater management practices, including clean water diversion, roof and paved area runoff infiltration beds, grassy drainage swales, and zinc-free roofing. The objectives of most of

these practices are to maximize storm water infiltration while keeping water that does run off to Lowes Creek as cool and clean as possible for the stream's trout.

Vance invited a group of 20 car dealerships from across the nation to tour his site. As a result, four other dealers from three states decided to incorporate storm water management ideas into their new designs.

Contact: Ron Struss, Geology Department, UW-Eau Claire, Eau Claire, WI 54702, (715) 836-5513, E-mail: ron.strussi:twisplan.uwex.edu

Salvaged Native Plants Thrive in Riparian Areas

Vegetative buffers along streams and wetlands in Thurston County, WA, are home to thousands of salvaged native plants. The plants, displaced from areas scheduled for development, are salvaged by county residents and replanted on sites where water quality has been compromised. The program, a pilot project funded by the Puget Sound Water Quality Authority, involved 106 people and nearly a thousand plants its first year.

Plants were taken from a golf course, a timber harvest site, and a construction site. Salvage sites were found through the county planning office, where applications for planned construction projects are filed. Permission to salvage the plants was the first step. Then the cuttings were made, and the plants overwintered in holding beds at a Master Gardener demonstration site for replanting in new locations the following spring.

The riparian area of a salmon run is home to some of the plants, which will keep sediments and pollution from a nearby freeway out of the stream. Other plants ended up as part of a wetland buffer to filter runoff from neighboring pastures, and a residence was landscaped with the remaining native plants. The residence, selected as a demonstration project to encourage inhabitants to use native plants in landscaping, received hazelnut, vine maple, red flowering current, and bald hip roses.

Fifteen local organizations collaborated to sponsor the Native Plant Salvage Project. About 330 volunteers attended training to learn to identify, salvage, and use native plants successfully and responsibly in their landscapes. Attractive native plants protect water quality, improve wildlife habitat, and reduce landscape maintenance cost and effort.

Contact: Gina Suomy or Kit Paulsen, Native Salvage Project, 6128 Capitol Blvd, Olympia, WA 98501, (360) 786-5445

Source: Nonpoint Source News-Notes, June 1995, Issue #41

Forest Lands Swap and EcoTimber

According to The Hancock Timber Resource Group its proposal to allow recreation on lands it plans to exchange for logging rights in the White Mountain National Forest "could revolutionize how America's public lands are managed." Under the proposal, Hancock would open its lands for public recreational use for White Mountain logging rights equal in value to the costs of recreational use of their lands as well as profits lost by not developing it. Hancock says the deal would allow the U.S. Forest Service to disperse mounting recreational demand. "Timbering in the White Mountains would be less costly, while Hancock's lands would be harvested sensitively", Hancock says.

Enviros say the proposal could serve as a model to help protect 26 million acres of "largely private" forest land across northern Maine, New Hampshire, Vermont and New York. But Stephen Blackmer, Chairman of the Northern Forest Alliance, says it "depends totally on the details." "It's not a concept I'd rule out, because it could be a good idea. But I could also see it as an unmitigated disaster if handled improperly", Blackmer says. The proposal still needs congressional approval.

At the same time Weyerhaeuser Company, in "one of the largest swaps of federal land in the South," would give about 150,000 acres of its land in Arkansas and Oklahoma to the federal government in exchange for 50,000 acres of national forest land under a bill offered by Sen. Dale Bumpers (D/AR). Proponents agree the "3-for-1 trade" would provide more recreational opportunities for the public and better wildlife habitat. The "biggest part" of the trade would give the U.S. Forest Service about 100,000 acres next to the Broken Bow Reservoir in McCurtain County, OK and add 30,000 acres to the Ouachita National Forest in Arkansas. The U.S. Fish and Wildlife Service would receive 25,000 "ecologically sensitive" acres in the Pond Creek area near Ashdown, AR.

The Arkansas and Oklahoma Wildlife federations have endorsed the plan, but "many" enviros oppose it, charging that "Weyerhaeuser wants to dump sterile tree plantations in exchange for mature forests that could be clear cut." John Buenau, land exchange manager for Weyerhaeuser, said that if the swap doesn't go through, the company will sell the land.

"One-time laggard" Weyerhaeuser is now among the timber industry's most profitable players and has won applause from some greens "for going beyond legal obligations to cut pollution and reduce damage to the lands it logs." New technologies, such as lasers that

scan logs to find high-value boards and modern paper plants that consume fewer resources, have boosted efficiency, raising the company's revenues 8.9% to $10.4 billion in 1994.

At its paper mills, Weyerhaeuser plans to meet US EPA rules to eliminate most chlorines by 1996 -- two years earlier than required. The company also is "learning to log following the contours of the land," in order to plan "designer clear-cuts" that are less threatening to salmon runs.

In the meantime U.S. lumber importers, distributors and wholesalers increasingly are seeking out wood products that have been harvested under an ecologically approved forest plan, "part of the growing 'green' market for environmentally correct products." These forest products, which generally are certified by independent non-profit organizations, are "quite competitive" in price. Major U.S. wholesale forest product buyers like Home Depot and Wal-Mart buy these goods and "take advantage of the marketing cache of a 'green' label."

EcoTimber International of San Francisco is a recognized "leader" among several dozen or more U.S. companies that sell ecologically correct lumber and forest products. According to Jason Grant, EcoTimber marketing VP, "We deliberately say that we buy from well-managed forests around the world rather than from sustained-yield operations, because sustained-yield is a goal rather than a fact of life. What is important is the commitment to building a market for forest operations that are leading the pack in terms of ecology and socially responsible forestry."

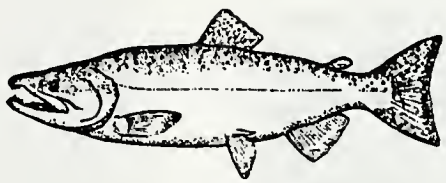
"Manufacturers also are playing an important role in driving the demand for ecologically correct wood products," in part through groups like the Woodworkers Alliance for Rainforest Protection, which publishes a list of "good wood" suppliers around the country.

Source: Greenwire Vol. 5, Nos. 30, 35 and 53

Corps Explores Plans for Snake River Dam Removal

The US Army Corps of Engineers is considering proposals to breach or tear down portions of four lower Snake River hydroelectric dams to ease juvenile salmon migrations. The proposals come in the wake of a National Marine Fisheries Service opinion issued in March, calling for changes to dam operations to reverse the decline of three threatened and endangered species of Snake River salmon.

Corps proposals for the dams focus on three options: (1) increasing drawdowns of reservoirs, including removing portions of dams; (2) screening turbine intakes and barging or trucking salmon downstream; or (3) installing new mechanical systems for collecting fish and bypassing dams. The most extreme drawdown proposal is to return year-round natural river conditions, tearing out parts of 100-foot dams and eliminating them as power producers.



chinnook salmon

"We think dramatic changes are needed," said Bob Doppelt of the Pacific Rivers Council. But Bruce Lovelin of the Columbia River Alliance, which represents commercial river users, says that drawdowns would be extremely costly and do not guarantee that any more fish would be saved than under other options. Currently, no decision has been made and the Corps is studying each option.

Source: Greenwire Vol. 5, No. 61

Tribes Release Salmon-Recovery Proposal

On June 15 four Northwest Indian tribes released "an ambitious plan" to halt the decline of all Columbia Basin fish stocks within seven years and restore salmon runs to the level of five million adults returning past the Bonneville Dam in 25 years. The proposal, which seeks to increase fish numbers beyond merely saving endangered runs from extinction, "aims higher than the salmon recovery plans that the state and federal governments have announced".

The National Marine Fisheries Service (NMFS) by law must adopt a recovery plan to save the endangered Snake River salmon, which is protected under the Endangered Species Act. Tribal leaders from the Yakamas in Washington, the Umatillas and Warm Springs in Oregon and the Nez Perce in Idaho blame federal mismanagement for bringing the salmon "to the brink of extinction".

Specifically, the four tribes' plan would: (1) limit the withdrawal of water from the rivers and halt the destruction of wetlands; (2) change the dams' operations to alter flows and draw down of reservoirs; (3) eliminate sources of toxins; (4) supplement natural runs with genetically identical hatchery fish; (5) reintroduce salmon into streams where they have become extinct; and (6) end barging of salmon past dams during migration.

The plan, presented to Congress and the White House, would cost $195 to $325 million. The tribes'

proposal would cost less than the NMFS plan, estimated at $310 to $620 million a year, and more than the $190 to $250 million per year plan proposed by the Northwest Power Planning Council.

Treaty fishing rights and the threat of a tribal lawsuit "with billions of dollars in potential consequences" could give the Indians "potent leverage for their high-priced proposal." "Underscoring the implied threat of litigation," Ted Strong, executive director of the commission representing the four tribes, said they have added up over $4 billion in damages from violations of their fishing rights under 1855 treaties. They say that while their fishing rights have been upheld in previous cases, such rights will be meaningless if the fish go extinct.

Source: Greenwire Vol. 5, No. 35

Court Ruling Affirms Reach of Species Act

The Supreme Court on June 29 upheld the federal government's position that the Endangered Species Act (ESA) provides authority to regulate species' habitat, even if that habitat is on private land. The 6-3 decision reversed an appeals court ruling in the Babbitt v. Sweet Home case brought by timber interests in response to the Interior Department's attempt to protect northern spotted owl habitat. The plan barred logging on habitat on both federal and private lands.

"The Supreme Court affirmed the common-sense interpretation of the law," said Interior Secretary Bruce Babbitt. "At the same time, it makes it all the more fundamentally important that we work to make this law more flexible and user-friendly to landowners." Steve Quarles, an attorney with the law firm who argued the case on behalf of Sweet Homes, predicted Congress would step in and change the law. "Just as we believe the 1973 Congress never intended by one word to turn the Secretary of the Interior into a national zoning czar, we don't believe this Congress will sanction such an outcome."

The case hinged on interpretation of the word "harm" as used in the Act. The ESA prohibits the "taking" of listed species and defines "take" as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect." In 1975, the Interior Department promulgated a regulation defining "harm" as including "significant habitat modification or degradation [that] actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering."

Writing for the majority, Justice John Paul Stevens ruled that the "ordinary definition" of the word "naturally encompasses habitat modification that results in actual injury or death to members of an endangered or threatened species." Joined by Justices Anthony Kennedy, David Souter, Sandra Day O'Connor, Ruth Bader Ginsburg and Steven Breyer, Stevens continued, "Given Congress' clear expression of the ESA's broad purpose to protect endangered and threatened wildlife, the Secretary's definition of 'harm' is reasonable."

In dissent, Justice Antonin Scalia, joined by Justice Clarence Thomas and Chief Justice William Rehnquist, said the Interior Department's regulation "imposes unfairness to the point of financial ruin-not just upon the rich, but upon the simplest farmer who finds his land conscripted to national zoological use."

All sides endorse the notion of incentive-based programs to encourage landowners to protect species and their habitats, but that is where the agreement stops. It's less a question of whether the ESA should be regulating private land, than it is a question of how they're going to it do it. A landowner should not have the right to drive a species to extinction.

The court cited the broad latitude that the statute gives to the Interior Department and deferred to the executive branch's interpretation of the law. Except in cases of clear violation of statutory intent, the court has been reluctant to second guess executive interpretations, though it often leaves the door open for Congress to clarify its intent and amend the law.

Sen. Slade Gorton (R/WA) introduced a bill, S. 768, backed by the timber and other resource industries, earlier this year that would codify a more restrictive definition of "harm," which would not include general habitat destruction. Members of Congress quickly adopted the case to support their position on reauthorization. Sen. Dirk Kempthorne (R/ID), chairman of a Senate panel with jurisdiction over the act, is drafting his own bill, which hill aides and Interior Department staffers said would be closer than the Gorton bill to the administration's position on reform.

Richard Pombo (R/CA), chairman of the House ESA Task-force, and House Resources Chairman Don Young (R/AK) are also drafting a reauthorization bill. Rep. Gerry Studds (D/MA), a strong supporter of the act, pledged to do "everything I can to see that the provisions of the ESA that recognize the importance of habitat protection remain in the law."

Time may be running out for reform of the act this year. Kempthorne's bill may not be introduced until after the August recess, leaving just a few months to hold hearings and mark ups. An aide to Kempthorne predicted the Senate would act on a reform before year's end, but he doubted the house would take action before next year. Most observers believe money bills and other business

could crowd the ESA off the agenda this year.

On June 12 the White House announced regulatory reforms that it said will "mean most homeowners 'will never have to worry about endangered species or wetlands requirements.'" The changes affect the ESA and areas classified as wetlands. One change involves the Army Corps of Engineers' procedure to issue permits to homeowners who want to alter property that contains a wetland. The procedure would reduce the waiting period of 120 days for getting a permit to 16 days and would be available to homeowners whose alterations affect wetlands up to one-half acre in size.

The Interior Department also will propose eliminating some restrictions imposed by the ESA on single-family private homes on five or fewer acres of land and on five-acre sections of larger private lots owned by individuals or businesses. Under the plan, activities like cutting down trees that might harm a "threatened" species would be permitted.

Source: Land Letter, Vol. 14, No. 19 and Greenwire Vol. 5, No. 51

Jobs Increase Under Forest Plan

According to a report by state employment economists (June 16), Oregon and Washington have added about 4,600 jobs in the forest-products industry since President Clinton took office. There has been a gradual increase in timber- and paper-industry jobs over the past two years, "though they remain nearly 20,000 jobs below peak industry employment levels in 1988," the officials said.

Sen. Patrick Leahy (D/VT), ranking Democrat on the Senate Agriculture Committee, said the findings show industry leaders are misleading the public by claiming 80,000 Northwest timber jobs could be lost if logging is not accelerated on public lands. Sen. Slade Gorton (R/WA) estimates that the Northwest region, including northern California and northern Idaho, has lost about 30,000 jobs since 1988, according to his press secretary, Heidi Kelly.

Dennis Fusco, chief economist for the Washington State Employment Security Department said "We went through a serious retrenchment within that industry, and in the past couple of years there has in fact been some stability".

Source: Greenwire Vol. 5, No. 35

Extinction Rate Predictor

University of Tennessee researchers have calculated extinction rates for "extinction centers" (areas rich in endemic species that live there and no place else). The scientists found that extinction rates in such areas are 100 to 1,000 times as high as the pre-human "background" extinction rate – a figure that is "about one-tenth the rate of the most pessimistic global estimates."

Previously, extinction-rate calculations have relied on the species-area curve, a theory that holds that rates of human-induced habitat loss will produce predictable extinction rates. For example, if an island's habitat is reduced by 90%, half of the species there will vanish. But other scientists have critiqued the approach, saying it serves as a "rough guide" and could be off by a factor of 10.

Drawing on fossil evidence, University of Tennessee researchers calculated the background rate of past extinctions and found that each year, only one in a million species should become extinct. The researchers then calculated extinction rates over the last 100 years for several endemic species – birds on Pacific islands, mammals in Australia and the Caribbean, reptiles on islands in the Indian and Atlantic Oceans, and clams in the Mississippi River drainage.

Comparing those figures, the researchers observed extinction rates were 100 to 1,000 times higher than the background rates. And if all threatened species in those areas went extinct, the extinction rates would increase tenfold, researchers calculated.

To determine if their approach or the species-area curve more accurately predicted extinction rates, the University of Tennessee researchers also compared data for extinct and soon-to-be extinct bird species in parts of Southeast Asia with differing deforestation rates. According to the University of Tennessee's Stuart Pimm, the scientists found that the species-area curve method failed to predict the correct extinction rates. "If you do that for all the species present, you get the wrong answer. You have to do it for only the species that are found there," Pimm said.

Pimm believes that with this new calibration of the area-species curve, he and his team have developed a tool for predicting future species losses among endemics. But because scientists know little about the distribution of endemics, researchers say it will be difficult to direct conservation efforts to the most-needed areas. The study appears in the current issue of SCIENCE.

Source: Greenwire Vol. 5, No. 59

Missouri Pallid Sturgeon Plan Available

"An Action Plan for Pallid Sturgeon in Missouri" contains proposed Missouri Department of Conservation actions during the next 10 years that it is hoped will lead to recovery of endangered pallid sturgeon to a self-sustaining

level in Missouri.

The 11 page document, completed in July 1995, is available free of charge from Kim Graham, Missouri Department of Conservation, 1110 College Avenue, Columbia, MO 65201.

International Sturgeon Symposium Proceedings

The Second International Sturgeon Symposium was held in Russia on 6-11 September 1993. Participants representing 18 countries focused on various aspects of sturgeons including their life history, ecology, fisheries, aquaculture and caviar production.

Over 40 papers submitted for the Proceedings reported on general problems of sturgeon biology, hormonal regulation of metabolism, tolerance to environmental impacts, genetics, population dynamics, distribution and resources of rare and endangered species, status of sturgeon culture in various countries, feeding and nutrition, etc. The Proceedings were edited by A.D. Gershanovich and T.I.J. Smith. Published by VNIRO Publishing, Moscow, the Proceedings are 370 pages in length, including 84 tables and 140 figures.

lake sturgeon

Contact: Publishing and Editorial Division, Russian Federal Research Institute of Fisheries and Oceanography (VNIRO), 17, V. Krasnoselskaya, Moscow, 107140, Russian Federation. Price of the book outside the Russian Federation is $35. Payment should be made to account N 890-0086 009 of Moscow Industrial Bank, Sokolniky Branch, Moscow with the bank of New-York, New-York, in favour of VNIRO 070262/001.

Clinton vs Gingrich

According to a combined CNN, USA TODAY and Gallup poll, 55% of Americans say they approve of the way President Clinton is handling environmental issues, while only 25% approve of House Speaker Newt Gingrich's (R/GA) environmental policies. Researchers interviewed 1,005 adults from 6/5-6; the margin of error is +/-3%

What do you think of Clinton's handling of the environment?

Approve	55%
Disapprove	31%
No Opinion	14%

What do you think of Gingrich's handling of the environment?

Approve	25%
Disapprove	42%
No Opinion	33%

Source: Greenwire Vol. 5, No. 30

Voting Against Enviro Laws Could be Costly

Most voters in AR, NE, NV, ND and VA would find voting to repeal major parts of the Clean Air, Clean Water and Safe Drinking Water acts – endangering public health and safety -- a convincing reason to oppose that candidate in the next election. Voters in those states said they would be even more strongly opposed to a candidate if he or she took large campaign contributions from polluters before voting to weaken enviro laws.

A regulatory-reform bill that would repeal parts of major enviro laws provoked opposition from most voters surveyed in AR, NE, NV, ND, VA and DE.

The Environmental Information Center, which is coordinating major enviro groups' work against reg-reform and property-rights bills in Congress, commissioned the Mellman Group to conduct polls of 500 registered voters in AR, NE, NV, ND, VA and DE from 6/3-12. Responses to the following questions (recorded in %) have a +/- 4.4% margin of error.

How convincing are the following reasons to vote against a candidate for U.S. Senate:

1. Candidate voted to endanger health and safety by repealing major parts of Clean Air, Clean Water and Safe Drinking Water acts?

	AR	NE	NV	ND	VA
Very	43	41	52	47	43
Somewhat	24	27	18	20	26
Not too	13	12	11	12	11
Not at all	9	9	9	8	11
Don't know	11	11	11	12	10

2. Candidate accepted tens of thousands of dollars from corporate polluters and then voted to weaken public-health and enviro laws?

	AR	NE	NV	ND	VA
Very	62	64	62	63	52
Somewhat	16	16	17	13	19
Not too	9	6	7	5	9
Not at all	6	6	8	7	10
Don't know	7	8	6	11	9

3. If Reg-Reform Bill would repeal major parts of the Clean Air, Clean Water and Safe Drinking Water acts, your opinion:

	AR	DE	NE	NV	ND	VA
Strongly Favor	12	13	13	12	13	10
Favor	8	7	14	7	10	7
Lean in Favor	2	1	2	1	3	2
Un-decided	22	23	30	20	26	24
Lean Oppose	4	3	2	4	2	2
Oppose	11	11	16	13	15	15
Strongly Oppose	42	42	23	43	32	39

Meetings of Interest

September 10-20: Karst Waters & Environmental Impacts, Antalya, Turkey. Contact: A. Ivan Johnson, Karst Symposium '95 Co-Chair, A. Ivan Johnson, Inc., 7474 Upham Court, Arvada, CO 80003.

September 14-16: Society for Ecological Restoration, Seattle, Washington. Restoration of ecosystem function and landscape patterns and processes will be addressed as well as the politics of restoration.

September 18-20: Versatility of Wetlands in the Agricultural Landscape, Tampa, FL. Contact: Kerry L. Curtis, Manager of Customer Services, Am. Water Resources Assoc., 950 Herndon Parkway, Suite 300, Herndon, VA 22070-5528. (703) 904-1225. FAX: 904-1228.

September 28-30: Watersheds '95 Expo. Bellevue, Washington. Contact Andrea Lindsay, U.S. Environmental Protection Agency WD-125, 1200 Sixth Ave., Seattle, WA 98101, (800) 424-4EPA.

October 16-18: The Conservation and Management of Freshwater Mussels II: Initiatives for the Future, Embassy Suites Hotel, St. Louis, MO. Contact: Alan Buchanan, Missouri Dept. of Conservation, (314) 882-9880.

October 22-24: States Rights "Summit on Federalism", Cincinnati, OH. The conference, announced by Governor Ben Nelson (D/NE), would "identify and prioritize proposals," and will include legislators, governors and state government organizations.

October 23-27: WFTEC '96: The Water Environment Federation's 68th Annual Conference and Exposition, Miami, FL. Contact: Water Environment Federation, 601 Wythe Street, Alexandria, VA 22314-1994. (800) 666-0206.

October 25-28: 1995 Natural Areas Conference, "Exploring the Power of Collaboration", Fayetteville, AR. Contact: Shellie Melson, University of Arkansas, Division of Continuing Education, #2 University Center, Fayetteville, AR 72701.

October 28: Symposium on The Bottomland Hardwoods of the Mississippi Alluvial Valley: Characteristics and Management of Natural Function, Structure, and Composition, Fayetteville, AR. Contact: Scott C. Yaich, U.S. Fish and Wildlife Service, Wildlife and Habitat Management Office, P.O. Box 396, St. Charles, AR 72140, (501) 282-3213, FAX (501) 282-3391

December 4-8: Second Annual Acid Mine Drainage Workshop, Cincinnati, OH. Contact: Lisa Grayson, Terrene Institute, 1717 K Street NW, Suite 801, Washington, DC 20006. (202) 833-8317, Fax: (202) 296-4071.

23-26 February 1996: AFS Southern Division Midyear Meeting, Adam's Mark Riverview Plaza, Mobile, AL. Contact: Patricia Mazik, Chair, Program Committee SFCL, Rt. 3, Box 86, Marion, AL 36756 (334/683-6175).

Congressional Action Pertinent to the Mississippi River Basin

Agriculture

H.R. 67 (Bereuter, R/NE) extends the **Conservation Reserve Program** for 10 years and the **Wetlands Reserve Program** for 5 years.

S. 854 (Lugar, R/IN) forms the basis of the conservation title of the 1995 Farm bill, including recommendations for the **Conservation Reserve Program, Wetlands Reserve Program, Conservation Incentive and Cost Share programs**. Senate Agriculture Committee held a hearing June 5.

S. 935 (Sarbanes, D/MD) amends the Food Security Act of 1985 to establish a program to promote the development of riparian forest buffers in conservation priority areas.

Fish & Wildlife

S. 191 (Hutchison, R/TX) and H.R. 490 (Smith, R/TX) amends the **Endangered Species Act** imposing a moratorium on new listings and critical habitat designations. Senate Environment Committee panel held a hearing July 13 on reauthorization of the **Endangered Species Act**.

S. 455 (Kempthorne, R/ID) clarifies consultation procedures under the **Endangered Species Act** on management of federal lands.

S. 503 (Hutchison, R/TX) freezes **Endangered Species Act** listings and critical habitat designations. Approved by Senate Environment panel on March 14.

S. 851 (Johnston, D/LA) amends the **Clean Water Act** to reform the wetlands regulatory program.

H.R. 1714 (Dooley, D/CA) amends the **Endangered Species Act** to require expeditious review of species being considered for listing under the act or currently listed under the act.

Forests

S. 647 (Lott, R/MS) amends the **Forest and Rangeland Renewable Resources Planning Act of 1974** to require that major changes to forest management plans be phased in over time to minimize impact to communities.

H.R 1089 (Cremeans, R/OH) ensures that acquisition of lands for inclusion in the National Forest System does not result in a loss of tax revenue to the affected county.

H.R. 1439 (Metcalf, R/WA) amends the **National Forest Management Act of 1976** to require that the timber sale program conducted by the Forest Service on forest system lands be financed only by receipts from the sale of timber under the program.

Senate Energy Committee held a hearing June 8 on the reorganization of the Forest Service and forest management issues.

Government Affairs

S. 169 (Grassley, R/IA) curbs the practice of imposing unfunded federal mandates on states and local governments.

HJ. Res. 27 (Franks, R/NJ) proposes a Constitutional amendment barring federal unfunded mandates to the states.

The House passed **H.R. 926 by a 415-15 vote.** H.R. 926 is aimed at improving regulatory flexibility.

H.R. 1022 (Walker, R/PA) passed by a 286-141 vote on February 28. H.R. 1022 establishes risk assessment and cost benefit analysis procedures for major rules.

S. 1001 (Glenn, D/OH) reforms the regulatory process, providing for cost-benefit analysis risk assessment of major rules, and calls for a review of existing rules.

Grazing

A Senate Energy Committee panel on June 22 concluded hearings on **S. 852** to provide for uniform management of livestock grazing on federal land.

House Resources Committee panel on July 11 held a hearing on **H.R. 1713** to provide for uniform management of livestock grazing on federal land.

Mining

S. 504 (Bumpers, D/AR) amends the Mining Law of 1872, imposing a royalty on mineral operations and reforming the process for mineral development. Senate hearing held on March 30.

S. 506 (Craig, R/ID) amends the Mining Law of 1872 to imposing a royalty on mineral operations and reforming the process for mineral development.

S. 639 (Campbell, R/CO) amends and reforms the Mining Law of 1872 providing for the disposition of locatable minerals on federal lands.

Parks

H.R. 260 (Hefley, R/CO) provides for a plan and management review of the National Park System, and reforms the process for considering additions to the system. Approved for full committee action by House Resources panel on March 29.

H.R. 1280 (Hefley, R/CO) establishes guidelines for determination of National Heritage Areas.

H.R. 1301 (Vento, D/MN) establishes the National Heritage Area Partnership Program.

H.R. 1449 (Roberts, R/KA) provides for establishment of the Tallgrass Prairie National Preserve in Kansas.

S. 964 (Johnston, D/LA) amends the Land and Water Conservation Fund Act of 1965 giving the Interior Secretary authority to collect entrance fees at National Parks for direct use on priority park maintenance and repair projects.

H.R. 1846 (Richardson, D/NM) establishes the Yellowstone Headwaters National Recreation Area within Montana's Gallatin and Custer National Forests

Public Lands

S. 93 (Hatfield, R/OR) amends the Federal Land Policy and Management Act providing for ecosystem management on public lands.

H.R. 91 (Sensenbrenner, R/WI) prohibits land or water acquisition for the National Wildlife Refuge System if wildlife refuge revenue sharing payments have not been made for the preceding year.

H.R. 25 (Orton, D/UT) a resolution requesting that the Interior Secretary withdraw proposed regulations concerning right of way granted under section 2477 of the revised statutes.

S. 193 (Campbell, D/CO) establishes a forage fee formula on Agriculture and Interior department lands.

S. 449 (Simon, D/IL) establishes the Midewin National Tallgrass Prairie in Illinois.

S. 518 (Thomas, R/WY) limits federal acquisitions in states where 25% or more of the land is owned by the United States.

S. 629 (Thomas, R/WY) prohibits requiring environmental assessments for grazing permit renewal under the **National Environmental Policy Act.**

S. 636 (Daschle, D/SD) requires the Agriculture Secretary to issue new term grazing permits on National Forest System lands to

replace expired or expiring grazing permits.

S. 852 (Domenici, R/NM) and H.R. 1713 (Cooley, R/OR) provides for the uniform management of livestock grazing on federal lands.

S. 1013 (Conrad, D/ND) authorizes the Interior Secretary to acquire land for the purpose of exchange for privately held land for use as wildlife and wetland protection areas.

S. 1031 (Thomas, R/WY) and H.R. 2032 (Hansen, R/UT) transfers lands administered by the Bureau of Land Management to the states.

House Resources Committee on May 17 approved **H.R. 1077**, authorizing the Bureau of Land Management.

Senate Energy panel on oversight and investigations concluded hearings June 7 on how the Departments of Energy and Interior and the Forest Service are implementing requirements of the **National Environmental Policy Act**, focusing on problems with environmental impact statements.

H.R. 1375 (Cooley, R/OR) provides for extension of expiring term grazing permits for lands within the National Forest System.

Recreation

H.R. 104 (Emerson, R/MO) rescinds fees required for use of public recreation areas at lakes and reservoirs under jurisdiction of the Army Corps of Engineers.

Refuges

H.R. 1112 (Brewster, R/OK) and S. 976 (Nickles, R/OK) transfers the Tishomingo National Wildlife Refuge to the state of Oklahoma. House national parks panel held a hearing May 16.

H.R. 1675 (Young, R/Ak) improves management and establishes purposes of the National Wildlife Refuge System. House Resources panel held a hearing May 25.

Rivers

H.R. 1260 (Johnson, D/SD) ensures equity in and increased recreation and economic benefits from the Missouri River system.

Takings

S. 135 (Hatch, R/UT) establishes a uniform federal process for protecting private property rights.

S. 145 (Gramm, R/TX) provides for protection of private property rights.

H.R. 9 (Archer, R/TX) creates jobs, enhances wages, strengthens private property rights and reduces the power of the federal government.

On February 16, the House Judiciary Committee approved **H.R. 925, the Private Property Protection Act, and H.R. 926 the Regulatory Relief Act**.

H.R. 971 (Wyden, D/OR) ensures that homeowners have access to information and opportunities to comment on actions that may decrease home values, and establishes a compensation program for development that produces pollution or otherwise impacts home values.

Senate Judiciary Committee held a hearing April 6 on **S. 605**, establishing a uniform system for protecting property rights and compensating landowners adversely affected by regulations. Senate Environment Committee on June 27 and July 12 held oversight hearings on **S. 605 and H.R. 9**.

House Resources Committee private property rights task-force held a hearing June 13 on general property rights issues.

Water and Wetlands

S. 49 (Stevens, R/AK) amends the **Clean Water Act** providing for exemptions to wetlands regulations and protection of property rights in Alaska.

H.R. 198 (Smith, R/MI) amends the Food Security Act of 1985 permitting conversion of wetlands smaller than one acre in size.

H.R. 226 (Dingell, D/MI) amends the Safe Drinking Water Act assuring the safety of public water systems.

H.R. 961 (Shuster, R/PA) reforms and reauthorizes the **Clean Water Act**. House Transportation Committee on April 6 approved for floor action.

H.R. 1132 (Oberstar, D/MN) amends the **Clean Water Act** providing for improved non-point source pollution control.

H.R. 1262 (Pallone, D/NJ) amends the **Clean Water Act** improving enforcement and compliance programs.

H.R. 1268 (English, R/PA) establishes a comprehensive program for conserving and managing wetlands.

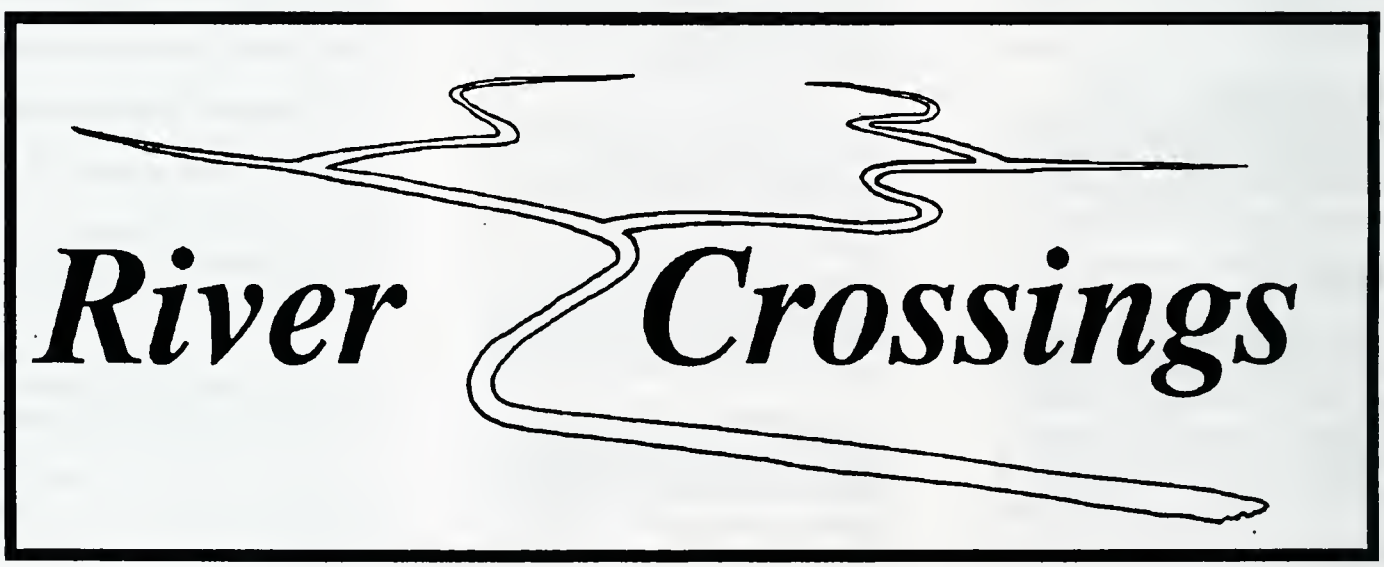
S. 626 (Hatfield, R/OR) amends the Watershed Protection and Flood Prevention Act establishing a technical assistance and grant program for waterways restoration.

S. 639 (Warner, R/VA) authorizes civil works programs for the Army Corps of Engineers which preserves the navigation of channels and harbors and provides for flood control and storm damage reduction.

H.R. 1438 (Lowey, D/NY) amends the **Clean Water Act** to provide funding to the states for estuary conservation.

Source: Land Letter, Vol. 14, No. 17 and 20.

Mississippi Interstate Cooperative Resource Association
P.O. Box 774
Bettendorf, IA 52722-0774

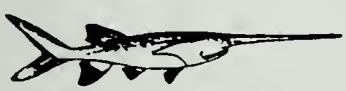


River Crossings

Volume 4 **September/October 1995** **Number 5**

MICRA Paddlefish Project Funding

The basinwide MICRA paddlefish tagging project, funded in 1995 by year-end funding from the International Association of Fish and Wildlife Agencies (IAFWA), is in jeopardy. Second year funding for MICRA's project did not "make the cut" this year in qualifying for IAFWA funds.



This was caused, in part, by the need to set aside funds for the anticipated transfer of several fish hatcheries from federal to state ownership. Funding is needed for transfer of these facilities, and this transfer is part of the overall effort to reduce federal costs, reinvent government, and ultimately balance the federal budget.

Another problem was apparently related to misinformation that some of the IAFWA participants had regarding the MICRA project. Reportedly some IAFWA officials had understood that multiple year funds were already available for MICRA, and that this year's funding request was just an add-on. Consequently, we are now looking for other funding sources.

MICRA's paddlefish tagging project is the largest such effort ever attempted on a freshwater fishery. In 1995 seventeen states participated, and over 5,000 adult paddlefish were tagged in the field, while over 500,000 fingerlings were tagged and released in the Basin by state and federal hatcheries.

A reward system for tag recovery has been setup including prizes contributed by several commercial vendors. Tag returns are already coming in, and if the project can be conducted over several years the results will rival that of major salmon tagging projects on the west coast. Ultimately, we hope to have very accurate estimates of the impact of harvest and stocking on the Basin's paddlefish populations.

Over the next few months we will be looking at all available sources of funding, including state, federal and private contributions; as well as in-kind contributions from our

INSIDE THIS ISSUE

members. Anyone wishing additional information should contact the MICRA office.

Interjurisdictional Rivers Fisheries Resources Act of 1995?

Congressman Steve Gunderson (R/WI) introduced his first Interjurisdictional Rivers Fisheries Resources Act in 1992. In the original bill, Gunderson proposed test funding for MICRA at $2 million per year over a three year period. The 1992 bill also authorized something called an Interjurisdictional Rivers Council to look at interjurisdictional river problems nationwide.

The recommended testing of MICRA received widespread support, but the idea of the Interjurisdictional Rivers Council was opposed in many quarters, especially by Alaskan Congressmen. Gunderson reintroduced his bill in subsequent Congresses, gradually allowing it to evolve to the point of completely eliminating the idea of the Council.

Gunderson has considered reintroducing a new bill this year; this time just as a simple "authorization" for MICRA, with no funding attached. While such a bill would not help our funding situation, it would provide MICRA with Congressional recognition and authorization, and open up other possible funding sources.

Persons interested in such a bill should make their interests known.

Cooperative Fisheries Management Act (H.R. 2160)

The House Fisheries, Wildlife and Subcommittee of House Resources marked up the Cooperative Fisheries Management Act on August 3rd. The Subcommittee is chaired by Rep. James Saxton (R/NJ).

The Cooperative Fisheries Management Act (H.R. 2160) would reauthorize the Interjurisdictional Fisheries Act (IFA) and the Anadromous Fisheries Conservation Act (AFCA). The IFA encourages the management of interjurisdictional fisheries, including (1) nearshore fisheries in waters under the jurisdiction of one or more states and the Federal government, (2) fisheries resources that migrate between the waters of several states bordering the Great Lakes, or (3) fisheries for which an interstate management plan exists.

Under the IFA, grants are made to states for research projects supporting interstate or Federally managed fisheries. State eligibility criteria and funding is designed to create incentives for states to engage in cooperative interstate fishery management. With regard to the IFA, approximately $4 million was authorized in 1996, $4.6 million in 1997, and $5.1 million in 1998.

Source: NOAA Legislative Informer, Sept. 1995, Issue #13

National Broodstock Registry for Paddlefish and Sturgeon

The U.S. National Biological Service, R & D Laboratory and the U.S. Fish and Wildlife Service, Division of Fish Hatcheries has initiated a project to assemble a

River Crossings

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Mississippi Interstate Cooperative Resource Association (MICRA)
P.O. Box 774
Bettendorf, IA 52722-0774

MICRA Chairman
Mike Conlin, Illinois Department of Conservation, Springfield

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Chris Ungate, Tennessee Valley Authority, Knoxville, TN

MICRA Coordinator/Executive Secretary and Newsletter Editor
Jerry L. Rasmussen, U.S. Fish & Wildlife Service, Columbia, Missouri

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River Crossings is a mechanism for communication, information transfer, and coordination between agencies, groups and persons responsible for and/or interested in preserving and protecting the aquatic resources of the Mississippi River Drainage Basin through improved communication and management. Information provided by the newsletter, or opinions expressed in it by contributing authors are provided in the spirit of "open communication", and do not necessarily reflect the position of MICRA or any of its member States or Entities. Any comments related to "River Crossings" should be directed to the MICRA Chairman.

database of information on sturgeon and paddlefish brood stocks. The database, to be

"paddlefish"

known as the National Fish Broodstock I Registry - Paddlefish and Sturgeon (NFBR-PS), will summarize information on brood stock origin, breeding history, genetic characterization, and fish performance in diverse fishery management and culture situations.

Information for the NFBR-PS will be assembled from many sources including: 1) survey of federal, state and commercial agencies, 2) published literature, and 3) agency reports. When complete, the database will be a source of

"lake sturgeon"

up-to-date information on specific broodstocks for fisheries personnel throughout the United States. The NFBR-PS will be a permanent database that will be updated as new information becomes available.

Contact: Dr. Harold L. Kincaid, USNBS, Research and Development Laboratory, R.D. #4, Box 63, Wellsboro, PA 16901, (717) 724-3322, ext. 232.

Source: The Sturgeon Quarterly Vol. 3, No. 3, July 1995

ESA Bills/Issues

The Senate has agreed to place a one-year moratorium on any new listings under the Endangered Species Act (ESA), allowing Congress time to review the law. The Senate's amendment was adopted as part of an amendment to a $12 billion FY 96 Interior Department spending bill and would "soften" the House's proposal prohibiting the U.S. Fish and Wildlife Service from making any new ESA listings.

Moving closer to "all-out political war," House Republicans on September 7 proposed a bill to scale back the ESA. The bill would overturn the Supreme Court's recent decision in the Sweet Home v. Babbitt case, and make it voluntary, not mandatory, for private landowners to protect the habitat of creatures threatened with extinction.

The House bill, a product of a special task force headed by Rep. Richard Pombo (R/CA), requires the government to compensate landowners for lost property value caused by species protection mandates. It would also provide new financial incentives, such as tax breaks, for property owners who voluntarily protect endangered species and their habitat.

The bill redefines what constitutes "harm" to a species as the result of "direct action" against fauna or flora, rather than the Supreme Court's more inclusive definition, which includes damage to habitat. Under the bill, the government also would be required to balance the benefits of wildlife protection against the social impacts, accounting for jobs that might be lost and resources such as lumber, minerals and crops that might never reach consumers.

Pombo's bill would also create "biodiversity reserves" -- 290 million acres of federal land, such as wilderness areas, national parks and wildlife refuges -- where endangered species would live and be protected. While endangered species could be protected outside the reserves, the bill would require compensation to private landowners when species protection reduces property values by 20% or more.

The bill also would create incentives for landowners to protect species on their property, such as easements, grants and land exchanges. "What we want to do is establish the protection of ... biodiversity in this country at the same time that we're trying to eliminate the conflicts with private property and the federal government that are occurring under current law", Pombo said.

Calling the bill unacceptable, John Kostyack of the National Wildlife Federation said studies "make it absolutely clear that [the reserves] are not going to be sufficient." The General Accounting Office has reported that 90% of species now listed as endangered or threatened rely on non-federal lands for habitat, he said.

House Resources Committee Chairman Don Young (R/AK) said he hopes to push the bill to the House floor as quickly as possible. Young said that because of its "adverse effect on landowners," the ESA has become unworkable and counterproductive. The new bill would establish "realistic goals," he said. The bill enjoys strong support among Western and Southern Republicans and some Democrats from those regions.

But the Clinton Administration condemned the bill as part of a broader GOP effort to undo decades of environmental programs. Interior Secretary Bruce Babbitt said that, "If Noah had to follow all the rules in this bill, he wouldn't have needed an ark. He could have fit all the animals he was allowed to save in a canoe".

Once Senate action is completed, the differences between the House and Senate versions must be resolved by a conference committee. Meanwhile, House GOPers have vowed to provide no funding for species protection until the ESA has been reworked, "setting the stage for a showdown on the House floor" in October. Other more conservative ESA

proposals are losing momentum with the introduction of the Young/Pombo rewrites.

However, a group of "moderate Republicans" headed by Rep. Wayne Gilchrest (MD) on September 21 introduced a compromise bill that would keep some key features of the ESA. Gilchrest said his bill gives states and private landowners incentives to protect endangered species and allows states to adopt their own species recovery plans. Gilchrest's bill would continue to ban destruction of threatened and endangered species habitat, even on private lands.

The Young- Pombo bill would exempt most privately owned habitat and move some currently protected species off the list.

The Gilchrest bill was unveiled "amid signs" that House Speaker Newt Gingrich (R/GA) wants to ensure the House passes an ESA bill acceptable to moderate and conservative Republicans. According to Gilchrest, Gingrich said he "would not allow a bad bill to hit the House floor."

Endangered Species Coalition's Jim Jontz said Gilchrest's bill "maintains the fundamental provisions" of the existing ESA. Although the coalition finds Gilchrest's bill "more acceptable," it has not endorsed it. Assistant Interior Secretary George Frampton suggested to the House Resources Committee that President Clinton would veto the Young-Pombo bill, but said the administration is interested in proposals like Gilchrest's.

Supporting environmental arguments that endangered species and rain forests should be saved because they contain natural remedies for incurable diseases, Danish drug maker Novo-Nordisk on September 5th filed a regulatory application for a new epilepsy drug called Gabitril. The medicine, which may offer relief for some 50 million epileptics worldwide, comes from betel nuts found in the rain forests of southern Asia.

Scientists have traced the cause of epileptic seizures to an imbalance of nerve impulses in the brain. While drugs are now available to suppress this imbalance, they do so by targeting all neurotransmitters, often causing patients to sleep as much as 11 hours a day. Isolated and extracted from the betel nut, Gabitril singles out and suppresses only one neurotransmitter, restoring the balance of brain impulses with fewer side effects.

Scientists are also beginning to market Amazon rain forest fruits "remarkably" high in vitamins and protein, along with scores of others that offer exotic flavors. Three acerola cherries weighing a half ounce contain more vitamin C than a pound of oranges, and the protein-rich acai, a purple berry, contains more iron than spinach.

Wim Groenveld, the founder of the Institute for Mankind, Agriculture and Ecology in Brazil, has identified and studied some 48 fruits that occur naturally in the Amazon. Groenveld believes that by planting fruit trees in concentrated areas, a small farm of eight acres could produce an income of $4,200 a year for a family. That is more than triple the minimum wage that many earn and would reflect a far more efficient use of land that is often used for subsistence crops or burned.

In the U.S., about 200 timber companies are working with the federal government to develop habitat conservation plans (HCPs) as a way of complying with the ESA. Under an HCP, which must pass muster with the U.S. Fish and Wildlife Service, a company outlines its plans for environmentally sensitive timber harvesting for up to a 100-year time span. In return, companies are given relief from some strict ESA regulations.

The plans usually call for leaving more live trees along streams and wetlands and more dead trees and slash on the ground. HCPs may also include artificial habitat creation. Jay Guttsweiler of Weyerheuser believes HCPs are an attractive alternative to struggling with the ESA. If a plan is approved, a company can be confident it can harvest its land as planned without the fear of additional environmental restrictions later. "Regulatory certainty is a very important, fundamental underpinning for us", Guttsweiler said.

Companies are continuing to adopt HCPs despite congressional efforts to weaken the ESA. Some firms may use the plans to show the public that they are good stewards of the land. Other firms complain that ESA compliance is so restrictive that "they are all but forced to adopt costly and burdensome conservation plans."

Many environmental groups are encouraged by HCPs because they elicit long-term environmental commitments from major landowners. While Charlie Reins of the Sierra Club views the plans positively, he is concerned that some HCPs could prove inadequate and the USFWS may not have adequate resources to monitor compliance.

Meanwhile back in Congress, there is "a mound of Republican bills aimed at rolling back, cutting or outright dismantling many of the environmental laws crafted over the last 25 years," but many may not make it through both the House and Senate this year. President Clinton, "citing the moratorium on additions to the endangered species list" and other environmental concerns, has threatened to veto a number of them, and "it is doubtful the Republicans could override a veto."

These bills also face an uncertain future because a number of Republican lawmakers are working

to moderate their party's position and find middle ground on environmental issues. Rep. H. James Saxton (R/NJ) believes support for environmental protection is expanding: "I think we can look at a growing base of support built around a Republican-Democrat coalition." Bill Roberts of the Environmental Defense Fund said "There is an ever-growing fissure between moderate Republicans and the very conservative wing. On environmental issues the Republican leadership is working with a razor-thin majority".

Source: Greenwire Vol. 5, Nos. 68, 70, 91, 97, 100, 102 and 103

Farm Subsidies/Wetlands Issues

According a the non-profit organization known as the "Environmental Working Group", 26.8% of all federal payments to farmers, or $29.2 billion of $108.9 billion released between 1985 and 1994, went to just 2% of American farmers, most of which were large, corporate firms. The report, just released, analyzed 112 million federal payments made to farmers from 1985-1994, using computerized payment records provided by the Agriculture Department.

The group urged Congress to redirect farm payments for price supports and conservation programs to smaller farms: "Instead of paying billions of dollars to a few thousand corporations, joint ventures and big-time farmers, Congress should invest in health care, education and environmental needs in rural ... America generally."

But Bryce Neidig of the Nebraska Farm Bureau Federation defends the subsidies: "If we want to protect the environment and control production, we can't do it unless we include the large producers. They control large amounts of land and huge amounts of production".

In South Dakota the Wildlife Federation believes that state's farmers should get property-tax exemptions for wetlands on their lands. At its recent annual meeting, the 4,000 member group supported the idea that farmers should receive a direct financial benefit from preserving wetlands, but it didn't propose how local governments should replace the money lost through an exemption. Federation Executive Director Roger Pries later suggested that duck hunters who benefit from wetlands should pay for the tax breaks.

In Iowa the US Soil Conservation Service (SCS) classified six acres of Charles Gunn's farm a wetland in 1991, limiting its use to hay harvesting once a drainage ditch was installed by a local district agency. Gunn appealed, only to have the off-limits area increased to 14 acres and its use further restricted. By 1994, after further appeals, Gunn had been assessed $25,848 for the ditch and 28 acres of his property had been restricted. The Natural Resource Conservation Service (NRCS formerly the SCS), citing Gunn's suit, will not comment on his case.

An NRCS effort to map wetlands throughout all of Iowa caused a "near revolt" earlier this year. The effort had been halted by the Bush Administration in the early 1990s with only one-third of the mapping complete. When the project resumed this past January, some already inventoried areas were re-examined using new standards, "but mainly the agency was trying to complete mapping," according to Iowa Assistant Conservationist Dennis Pate.

Farmers, however, believed the move was a government attempt "to gain jurisdiction over more land." Their angry reaction prompted lawmakers to halt the project again. Now, unless a farmer needs a wetlands determination for a special project, "no new decisions will be made until a federal farm bill is written."

Attempting to put more flexibility into wetlands decisions, a Clinton Administration proposal would allow field officers to judge what effect a farmer's "planned disturbance of a wetland" would have. If only a "minimal effect" would occur, "no special requirements would apply." Where the changes would have an impact, the proposal allows for "more options for offsetting those effects"

Senate Agriculture Committee Chairman Richard Lugar (R/IN) supports something called a seven-year "Freedom to Farm Act," a major rewrite of federal farm programs being pushed by his House counterpart, Pat Roberts (R/KS). Farmers are now subsidized to keep millions of acres out of production and required to grow specific crops on their remaining fields to qualify for further Agriculture Department subsidies. But under Roberts's bill, subsidies to farmers next year would be cut by 15%, and by 2002 they would be cut by 40%. "Only a few strings would be attached, like continued requirements to meet some environmental rules."

Few environmental groups have closely examined the plan. But Kenneth Cook, a farm policy expert

at the Environmental Working Group, said that cultivating millions of acres that now lie fallow could further pollute rivers and streams with fertilizer and chemical runoff.

Source: Greenwire Vol. 5, Nos. 50, 85, 93, 95

Lower Mississippi River Bottomlands/Levees

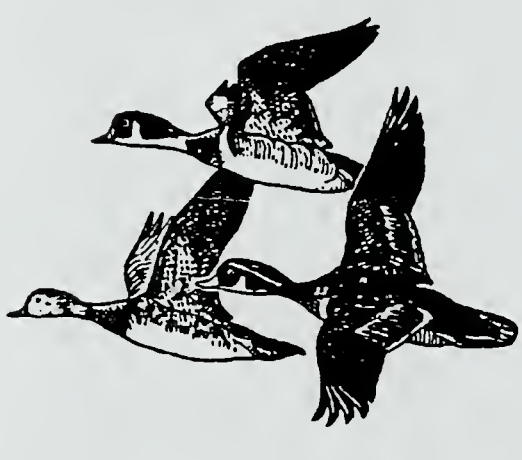
A "sweeping" proposal to merge a chain of government holdings and private lands into a 250 square mile swath of restored wildlife habitat in Tennessee was submitted this month to the North American Wetlands Conservation Council by the Tennessee Wildlife Resources Agency (TWRA).

The Mississippi Alluvial Valley (MAV) Habitat Project hopes to receive a $1.5 million federal grant to help fund the project, which would offer landowners incentives to plant trees, restore wetlands and manage woodlands to benefit wildlife in Lower Mississippi River bottomlands located in western Lauderdale County and a small portion of southwestern Dyer County.

TWRA officials said the plan could serve as a model for other states. Joe Hopper of the TWRA called the project "a large undertaking," but said that the Mississippi bottomlands are "probably one of the easiest places to try to do something like this." Tony Parks of Anderson-Tully Co., which owns forest land in the area and helped to draft the plan, said the proposal's strength is that it works with landowners on a voluntary basis: "We look at the private landowner as the integral component to the success of this program".

However, while the MAV project is designed to restore bottomland hardwoods and wetlands along the lower Mississippi, the U.S. Army, Corps of Engineers has plans to destroy them in order to raise flood protection levees. In response, a coalition of eight environmental groups on August 15th issued a formal warning that it would file a suit against the Corps unless they reevaluate the impacts of their plan. The same day, the Corps said it had received approval of a new, environmental-friendly plan for the levees, but environmental groups are still critical.

The Corps' initial plans to prevent flooding in Louisiana, Arkansas and Mississippi included digging up 11,400 acres of bottomland hardwoods for soil to use in construction. Environmental groups were not opposing the levees themselves, only plans to save money in construction costs by using nearby wetlands soils.



New Corps plans would use more environmentally sensitive planning and get the necessary soil by dredging the Mississippi River. Only some 4,100 acres of wetlands would be affected, and they would be replanted, said Corps spokesman Mike Logue.

But Sierra Club Legal Defense Fund's Melissa Samet questioned the accuracy of the Corps' figures and said a new environmental impact statement would still be needed on the impact of dredging. The Louisiana legislature this year passed a resolution supporting a supplemental environmental impact statement.

Source: Greenwire Vol. 5, Nos. 76 and 77

Wetlands and Flood Control

Recent studies at a 5.7 acre experimental plot of reclaimed wetlands in Wadsworth, IL show that wetlands can reduce pollutants from a 410-acre northern Illinois watershed by up to 99%. Taken with other results from marshes on the site, "the findings made possible a startling calculation: only 1.37% to 5.47% of the total watershed needs to be in wetlands to accommodate the runoff".

"The realization was a eureka moment" for Donald Hey, a hydrologist with the Des Plaines River Wetlands Restoration Project. Hey estimated that the Mississippi River could have been kept in its banks in the 1993 floods if 3% of the upper watershed – about 13 million acres – were restored to 3 ft. deep marshes. Hey said, "From a flood-control standpoint it works out, and from a water-quality standpoint it works out."

According to Nancy Philippi, a private consultant who co-wrote a paper with Hey in the Journal of Restoration Ecology, there is already 13 million acres of idle agricultural land in the Basin, which means the idea of distributing wetlands throughout the watershed" is not impossible, unreasonable or even expensive".

Source: Greenwire Vol. 5, No. 70

Midwest Ground Water Contamination

Tap water in the Midwest's Corn Belt is dangerously contaminated with agricultural weed killers, posing serious health risks, according to a study just released by the Environmental Working Group (EWG). Tap water from 28 of 29 cities and towns in the Midwest, Maryland and Louisiana was found to contain weed killers.

In some cases, up to nine different weed killers were found in the tap water in people's homes. The research focused on two of the most common farm herbicides, atrazine and cyanazine, millions of pounds of which are used every year to control pests on corn and sorghum fields in the Midwest.

Researchers collected samples every three days from bathroom, kitchen and office faucets. The samples showed the presence of at least one weed killer in all but one city: Memphis, TN, where water comes from deep wells.

The worst violations were found in Danville, IL, where 94% of cyanazine samples and 84% of atrazine samples were above USEPA guidelines from May to July. Large concentrations of herbicides were also found in New Orleans and nearly every surface drinking water source in the Mississippi River Basin. The group argued that infants and children are "particularly at risk," and charged that "this is no time to weaken health standards for pesticides or contaminants ... as Congress is moving to do".

Water wells in farming areas also have more nitrate contamination than previously believed, according to a new study by the U.S. Geological Survey. The study of pollution from fertilizers and other nutrients found that 9% of 3,351 home wells tested exceeded safe nitrate levels set by the USEPA. The figure is higher than the 2.4% contamination found in a 1990 EPA survey that included wells outside of farming areas.

The greatest nitrate concentrations in underground water were found in parts of the Northeast, Midwest and West Coast, while concentrations tended to be lower in Southeastern states. Since nitrates can take a long time to work their way into underground water supplies, the impact of heavy fertilizer use may not be seen for four or five decades, the report said. Current efforts to reduce fertilizer use may also take a long time to show results. Fertilizers and manure add nitrates to water, and excess nitrates can cause fatal oxygen deprivation in infants.

Lynn Goldman, EPA assistant administrator for pesticides, called the findings of their study "significant" and said consumers should check with local water utilities "to make sure standards for toxic pollutants are being met." Agricultural groups and other critics say the EPA report is "unnecessarily alarming" because it measured levels only in the summer, when herbicides are most frequently used. The USEPA standards, on the other hand, are based on a running annual average to ensure that a person's total lifetime exposure does not exceed a safe level.

Source: Greenwire Vol. 5, Nos. 77 and 88

Iowa/Missouri North Carolina Hog Laws

A new Iowa law regulating big hog lot operations was signed by Gov. Terry Branstad (R) on May 31. The law increases minimum distance between new livestock confinements and their neighbors, and details manure management plans as a condition of being permitted to build a large livestock confinement. At the same time, it makes it harder for neighbors of large hog operations to successfully sue for bad odors or other nuisances created by livestock.

Branstad called the bill a "good compromise," and said it should "spur expansion by Iowa hog producers who have been reluctant to invest in the absence of a clear state policy"

"Bowing to a groundswell of grass-roots pressure," an Iowa state advisory committee voted on September 13 to tighten regulations on manure management at large hog farms. A The committee, "representing primarily the livestock industry," urged that hog farms with as few as 1,300 animals be required to file manure management plans. Harold Trask, a farmer representing the pork industry on the panel, said the changes were "a proactive stance to raise hogs in an environmentally friendly manner." The Iowa Environmental Protection Commission approved the Committee's recommendation on September 22. Critics had complained that some pork producers are skirting existing rules by building hog lots that hold just under 5,000 hogs, the threshold at which operators were required to apply for construction permits. The panel also voted to make manure management plans open to the public.

In neighboring Missouri, the state Clean Water Commission on September 13 adopted standards to regulate hog-farm waste lagoons. But environmental groups say the rules "still fail to protect" the public's drinking water.

The commission approved a requirement that engineers approve the design of waste lagoons and that storm water runoff from farm fields be monitored. It also approved a limit on the rate at which lagoon waste can be applied to farm fields as fertilizer, but it did not adopt a proposal to prohibit facilities with more than 17,500 hogs in watersheds of public drinking water supplies.

It also rejected ground water monitoring and the posting of bonds to cover lagoon cleanup costs if a company goes out of business. Ken Midkiff of the Sierra Club's Ozark Chapter said the standards "assure a bare minimum level of protection" for the public.

Meanwhile in North Carolina, the state Division of Environmental Management (DEM) on August 15 issued a formal notice of violation to OceanView Farms Ltd., which spilled 25 million gallons of hog waste into the New River on June 21. The agency said that the announcement was the "first step" in the disciplinary process and would be followed by a "financial penalty" within a week.

OceanView has been charged with a number of violations, including improper management of a waste lagoon and failure to keep certain records. Bill Johnson, VP of Coastal AG-Development, Oceanview's managing partner, disagreed with the DEM's characterization of the farm's compliance: "We believe we did comply with the waste management plan as well as weather permitted. We intend to work with DEM to satisfy their concerns regarding the lagoon and the irrigation fields".

North Carolina pork producers recommended on August 14 that the state begin at least twice-a-year inspections at animal waste facilities after the "rash" of hog-waste spills in the past few months. The NC Pork Producers Association unanimously agreed that the state's 3,600 hog, chicken and other animal farms "need to be scrutinized".

Source: Greenwire Vol. 5, Nos. 25, 77, 96, 97 and 103

Yellowstone National Park Or Mine Waste Dump?

On August 25 President Clinton issued a two-year mining moratorium on 19,100 acres around Yellowstone National Park. But before the moratorium was filed in the Federal Register, Crown Butte Mines, the Toronto-based company planning the New World Gold Mine outside the park, filed 38 additional mining claims in the area. The new mining claims cover about 4,000 acres, according to the Department of the Interior.

Crown Butte officials said the claims had been in the works for some time, and were "staked legally and appropriately ... and in no way conflict" with President Clinton's injunction. "Resource-law experts" said the company's new claims could strengthen its legal position if the federal government tries block the opening of the New World Mine.

Environmentalists "blasted" the new claims as a "sneak attack" on Clinton's mining moratorium. Greater Yellowstone Coalition's (GYC) Mike Clark, said, "Crown Butte is thumbing its nose at the President and the wishes of the American public." Clinton Administration officials declined comment, "although several said privately they were irked by Crown Butte's move and said the Interior Department would review the claims to see if they are valid".

According to a recent report by the GYC, Crown Butte Mines intends to remove twice as much gold as it has indicated publicly, and that this would require full-scale mining into a watershed that flows into Yellowstone. A statement earlier this year by former Crown Butte geologist Allan Kirk said the region around the proposed mine site "is a very good place to go exploring for additional deposits." A Crown Butte mining plan refers to "Stage II" that would come about if additional gold reserves were found after the mine began operations.

But Crown Butte geologist Dan McLaughlin said the company would pursue extra deposits only if they were within the proposed site at Henderson Mountain, rather than expand operations into the Miller Creek drainage, which feeds Yellowstone's Soda Butte Creek.

Crown Butte officials said that President C.. ..n's decision to impose a moratorium on new mining claims on federal lands around Yellowstone National Park has no impact on its proposed mine. Crown Butte President Joseph Baylis also said the company owns claims in the area that could serve as alternative sites for a mine tailings pond if its original proposal for a waste rock dump is rejected.

A working draft environmental impact statement for the proposed mine "dismisses any off-site disposal of mine wastes as 'not reasonable'" because of the projected cost to the mining company. However, GYC's Brad Kuehl, pointed out that the document fails to consider the multimillion-dollar bonding requirements that would accompany a "massive mill tailings pond" near the mine. That could make the estimated $32.5 million cost of off-site disposal seem "much more economically feasible," he said.

Environmental groups, the National Park Service and the USEPA favor off-site waste disposal "as a way to minimize the danger of acid runoff contaminating watersheds in the area." Sen. Max Baucus (D/MT) "has said that if off-site disposal is not economic, the mine should not be built." Mike DeSilva of the State Lands Department said the conclusions of the final draft EIS, expected late this year or early next, "could be far different" from those in the working document.

Presentations to the World Heritage Committee (WHC), an offshoot of the United Nations, highlighted the ongoing dispute over the mine's impact on water flows in the area. The international experts visited the mine site on September 7-9 to evaluate the impact the mine might have on Yellowstone National Park, a UN designated World Heritage site.

Ken Pierce, a retired USGS geologist, told the WHC that the proposed diversion of Fisher Creek around the proposed mine tailings dump could pose serious erosion problems for the tailings-holding structure, eventually causing runoff over its top. Grant Meyer, a geologist at Middlebury College in Vermont who has researched sediment flows around Yellowstone for seven years, concurred with Pierce and said that floods of sediment could breach the dam more seriously than Crown Butte has suggested.

But Crown Butte hydrologist Doug Parker said the company would be pleased if additional sedimentation occurred: "It would in the long term only help to protect the impoundment".

State and federal officials are drafting an environmental impact statement for the proposed mine, but it won't be released until after September, sources say.

The National Park Service has released a report estimating that the fair market value of the New World gold mine lease was less than $50 million, "considerably lower" than previous estimates. The findings "suggest that a federal coal-lease swap could be arranged for the buyout [of the lease] that would avoid a direct expenditure of federal funds." Given the risks of acid mine drainage into Yellowstone Park, the report said "the buyout option is an alternative that merits serious consideration."

"Yellowstone cutthroat trout"

Phil Cloues, the mineral economist who compiled the report, estimated the market value of the New World mine by using Crown Butte's production data and federally approved appraisal standards for land acquisitions. However, Crown Butte President Joe Baylis said the report's methodology was "flawed" and that the projected lease value was "outrageously low." "The fact is, in the industry, no one sells a royalty on a property that has a known ore reserve," Baylis said. However, Baylis declined to name a price for the mine, saying that any talk of a buyout was "meaningless" until federal or state agencies made a formal offer.

Under a bill introduced on June 14 Rep. Bill Richardson (D/NM) proposed that the headwaters of the Yellowstone River become a national recreation area where mining is prohibited. The bill would effectively block the New World mine. Richardson's legislation proposes a 24,000-acre Yellowstone Headwaters National Recreation Area in Montana's Gallatin and Custer National forests. It would require a management plan for natural resources there and prohibit "any federal permit for mining or related activity until previous mining-related environmental damage on the lands is brought under control."

Richardson, the ranking Democrat on the House National Parks, Forests and Lands Subcommittee, said 30 members of Congress have agreed to co-sponsor his bill, including two Republicans. But "no representative from Wyoming, Idaho or Montana has yet signed on". Rep. Pat Williams (D/MT), who has expressed concern about the mine but opposes the bill, said House Republicans won't give the bill a "second glance" given the lack of local support.

Source: Greenwire Vol. 5, Nos. 34, 39, 62, 65, 89, 94 and 98

New Coal Mining Bill

Rep. Barbara Cubin (R/WY) on September 21 introduced a bill that would assure qualified states independent oversight for enforcing the Surface Mining Control and Reclamation Act (SMCRA), which sets environmental and other standards for the nation's coal mines.

Cubin says her bill would revive the original intent of SMCRA – allowing states to enforce the law without federal interference. The federal Office of Surface Mining (OSM) has "ignored the careful balance of authority" between states and the feds by issuing violations to coal mine operators "anytime OSM disagrees with a state's view of the program requirements," Cubin said. "This practice has victimized coal mine operators," she adds.

Cubin's justification for the reform legislation has been questioned as being "not grounded in fact" and affecting other states "far more" than Wyoming. In Wyoming, federal inspectors have issued two violations in the past three years; whereas, in West Virginia, federal agents issued 74. Rep. Nick Rahall (D/WV) has criticized Cubin's bill, and says federal enforcers play an important role in his state. OSM Director Robert

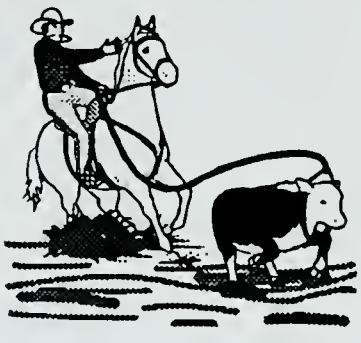
Uram says the bill would give OSM only one enforcement tool for repeated violators: putting state programs under complete federal control.

Source: Greenwire Vol. 5, No. 103

Grazing Issues

On August 4th Bill Richardson (D/NM) "torpedoed" a grazing reform bill favored by the livestock industry, allowing Interior Secretary Bruce Babbitt's grazing reform plan, "despised" by ranchers, to take effect as planned on August 21. While the regulations will not increase the fees ranchers pay to graze livestock on public lands, they will increase ranchers' responsibility to protect the ecological health of federal lands and boost federal enforcement authority.

The House Resources Subcommittee on National Parks, Forests and Lands was meeting on August 4 to vote on a GOP-backed grazing bill when Richardson raised a parliamentary objection, forcing subcommittee Chairman Jim Hansen (R/UT) to adjourn the meeting. Richardson said he stopped the meeting because he felt such "controversial" legislation should not be "rushed" through Congress on the eve of the August recess.



But the industry was "outraged" and Hansen said "this is going to create a firestorm in the West." Hansen plans to ask Babbitt to postpone implementation of the regulations, but Babbitt has already given Congress six months to pass a bill, and it has failed to do so. Hansen said he will move the bill, sponsored by Wes Cooley (R/OR), in September. That bill would raise grazing fees from their current level of $1.61 per animal-unit-month to about $2.10.

Meanwhile in the Senate, support for Pete Domenici's (R/NM) original bill has diminished because it is tainted by charges that it is "anti-recreation" and "anti-multiple use." A coalition of hunters, anglers and environmentalists have joined forces to push for changes in both the House and Senate. Pressure from the coalition – which includes the North American Pronghorn Association, Trout Unlimited, Wyoming Snowmobile Association, and the Wyoming Outdoor Council – has been "so intense" that Domenici has agreed that his bill needs to be changed.

The Senate had already changed the title of the Domenici bill from the Livestock Grazing Act to the Public Rangelands Management Act to avoid criticism that it was written solely for the livestock industry. And the House has adopted an amendment that ensures grazing permittees may not interfere with hunters' or anglers' access to public lands.

Domenici, however, is now going back to the drawing board and opening a new dialogue with environmentalists and sportsmen's groups to try to reach a compromise. In district meetings with interest groups and others in New Mexico, Domenici pledged to change the bill to reaffirm his support for multiple use management and maintained that he had no intention of making grazing the dominant use of public lands.

Domenici also said he would take a closer look at several issues of concern to environmentalists, including the bill's limitations on what actions land managers can take in response to resource conditions, the make-up of Resource Advisory Councils, the extent of public participation in grazing management decisions, and suggestions to give the Bureau of Land Management and the Forest Service specific authority to review the compatibility of lands for grazing. To give staff time to rework the bill to accommodate these and other concerns, there will be no Senate action for six weeks, Domenici said. He intends to ask the House to delay action as well.

Concerned that Domenici "overreacted," Sen. Craig Thomas (R/WY), who co-sponsored the bill, said that the opposition is coming more from traditional anti-grazing environmental groups and less from the Republican-leaning hunting and fishing organizations.

Wyoming Snowmobile Association's Kenny Volkner said, "There's been concerns about [the bill], but there really hasn't been enough information about it to cause a stir." There are also signs that the larger coalition of hunters and environmentalists may be too tenuous to sustain the kind of effort those who would kill the bill need to succeed.

Action on major grazing legislation is not expected now until late winter or next spring.

Source: Source: Greenwire Vol. 5, Nos. 69 and 98; and Land Letter, September 1, 1995

Western Land Wars

Hearings began on July 28 in the Justice Department's lawsuit against Nye County, NV, a case which is "being touted nationwide as an important fight" over state sovereignty. The suit, filed on March 8, challenges a 1993 resolution by the Nye County Commission claiming that the state of Nevada rather than the federal government owns federal lands within state borders.

Lawyers representing the county argued that the federal government violated the Constitution's "equal footing" clause – which gives new states equality with the original 13 states – because Nevada had to cede nearly 88% of its land to the feds while other states retain total control within their boundaries.

Justice Department attorney Peter Cobalamin argued that the equal footing clause applies to political equality, not economic or property rights. He also said that if Nye County prevailed, there would be "enormous consequences" nationwide: "The county is asking this court to redraw the map of the United States and rewrite 150 years of American history."

The federal government filed a motion in early August asking that Nevada be named as a co-defendant in the suit against Nye County. Nevada state officials have said that they do not agree with Nye County's position in the case.

Gov. Bob Miller (D) has said he thinks it would be costly for the state to take over management of public lands. The motion to bring Nevada into the suit may place the state in a perplexing position, said Senior Deputy Attorney General Wayne Howle, because Nevada's arguments could echo those of the plaintiff. A response to the motion from presiding U.S. District Judge Lloyd George is expected to take a few weeks.

Source: Greenwire Vol. 5, 65, 85

Roads Bill

Utah Rep. Jim Hansen (R) on July 20 introduced a bill to "make it easier for rural counties to claim rights of way for roads over federal land." The bill is a response to a recent proposal by Interior Secretary Bruce Babbitt that Hansen says will "close up access in the rural West."

The debate stems from an 1866 statute granting local counties the right-of-way over federal lands. While that law was repealed in 1976, the Bureau of Land Management must still consider 5,000 claims for right-of-way, including many primitive roads through wilderness study areas.

Hansen said "We must resolve this issue once and for all ... our counties must know what their legal rights are on these roads." Babbitt's proposal would not recognize many of the primitive routes as valid roads and would prohibit future access. Hansen's bill would allow counties "to take bulldozers in to maintain them."

Hansen's bill gives individuals and state or local governments ten years to file a petition for a right-of-way and allow the federal government two years to respond. If the feds fail to respond, the right-of-way would be granted. If an agency objects to a request, the bill requires the federal government to file a federal suit and show why the claim should not be granted.

The Southern Utah Wilderness Alliance's Scott Groene called the bill "extraordinarily extreme," noting that it allows "anyone with a 32-cent stamp" to claim a right-of-way on public land and forces the government to conduct an expensive and time-consuming study on its validity.

Source: Greenwire Vol. 5, No. 60

Zebra Mussel Distribution Update

Upper Mississippi: Zebra mussels have infested virtually every lock and dam in the upper Mississippi River as well as several power generation plants. No sightings were reported during the past year, but the Corps of Engineers report increased densities at the sites first reported in December 1994. The Illinois River showed decreases in zebra mussel biomass measured at four sites last October. Biologists from the Illinois Natural History Survey attributed this to poor water quality. In Minnesota, several boats pulled from the Minnesota and St. Croix rivers were found to have zebra mussels attached to the hulls. However, neither river is considered by the Minnesota DNR to be infested at this time.

Lower Mississippi: Zebra mussels first appeared in the lower Mississippi River in 1992. In 1993, they were found in Bayou Teche about one mile from its confluence with the Atchafalaya River. This year they were found in Bayou Courtableau, part of the Atchafalaya River Basin in Louisiana. The Louisiana Sea Grant and the U.S. Fish and Wildlife Service confirmed that several power stations and waterworks plants in and near New Orleans have reported zebra mussels infestations. The southern-most sighting was at Venice, Louisiana, Mississippi River Mile 10.

Arkansas/White/Red: No significant changes in zebra mussel distribution have been reported this year in this drainage. In 1992, small numbers of zebra mussels were observed at a majority of lock and dams on the Arkansas River. The farthest point west for zebra mussels in the Arkansas River continues to be in eastern Oklahoma at Webbers Falls Lock and Dam. In the Verdigris River, a tributary of the Arkansas River in eastern Oklahoma, zebra mussels were found at River Mile 6.4 in 1993 and River Mile 26.6 in 1994.

Ohio: In 1993, many new zebra mussel populations were reported from West Virginia in the upper reaches of the Ohio. Zebra mussels moved into the headwaters of the Ohio River in Pennsylvania at Emsworth Lock and Dam, just west of Pittsburgh in the latter part of 1994 and early in 1995. The Corps of Engineers found zebra mussels in the Allegheny River at Lock 4, near Natrona, and Lock 7, near Kittanning, Pennsylvania. Zebra mussels were also found in the Monongahela River at Lock and Dam No. 2, near Braddock, Pennsylvania. As for the lower Ohio River, several reports from different sources concur that zebra mussels are persisting in increasing numbers there.

Mid-Atlantic: In the mid-Atlantic drainage, zebra mussels continue to inhabit the Mohawk River and the Hudson River from Albany to Haverstraw, New York. In 1994, the Vermont DEC reported zebra mussels from several locations in the middle and upper portions of Lake Champlain. Zebra mussel colonies had been previously found only in the lower portion of the lake where populations are reported as dense in 1995.

Tennessee: The Cumberland River continues to support zebra mussels. Nashville is the farthest upstream sighting recorded. In the past year, the Tennessee Valley Authority reported finding veligers at all monitoring 'stations' downstream from River Mile 260 in the Tennessee River. Moderate numbers of adult zebra mussels have been found at all nine Tennessee River Locks up to River Mile 602, near Knoxville.

California: Since the initial finding of zebra mussels on a boat at a California agricultural inspection station in 1993, five additional boats with zebra mussels attached to their hulls have been detected at three different inspection stations. The second finding of zebra mussels occurred in California last November. Forty specimens were removed from a boat on a flatbed trailer being shipped from Toledo, Ohio to San Diego. Their condition was listed as "live" at the time of collection according to the California Department of Water Resources. The third occurrence took place this past March when "live" adults were found in the starboard intake of a 40-ft yacht. The origin of this boat was Michigan, and like the last boat, its destination was San Diego. These first three finds were all reported from the Needles Inspection Station. The next occurrence was reported from the Yermo Inspection Station in May 1995. This boat also came from Michigan but had been out of the water for over a year. The most recent two boats were detected at the Truckee Inspection Station in June 1995. The origin of both boats was Michigan and both had been drydocked for long periods so there were no live mussels. Given these instances, it would appear that overland transport of zebra mussels on or in boats from thousands of miles away poses a real threat to uninfested waters.

Great Lakes: The most significant change in the spread of zebra mussel has been in the inland lakes of the Great Lakes states, especially Michigan. In 1993 there were 10 inland Michigan lakes with zebra mussels. As of July 1995, 29 of Michigan's inland lakes have been infested. Illinois, Indiana, New York, Ohio, and Wisconsin have also reported zebra mussels in their inland lakes.

Inland lakes:
Illinois: Heidecke Lake in Grundy County
Indiana: Kuhn Lake, Lake Syracuse, Lake Tippicanoe, and Lake Wawassee all in Kosciusko County; and Wolf Lake in Lake County.
Michigan: Lake Paw Paw - Berrien County; Christiana Lake and Eagle Lake in Cass County; Lake Charlevoix and Walloon Lake in Charlevoix County; Burt Lake in Cheboygan County; Crooked Lake, Paradise Lake and Pickeral Lake in Emmet County; Clark Lake and Vineyard Lake in Jackson County; Gull Lake in Kalamazoo County; Devil's Lake and Wampler's Lake in Lenawee County; Arcadia Lake in Manistee County, Muskegon Lake and White Lake in Muskegon County; Cass Lake, Elizabeth Lake, Kent Lake, Loon Lake, Orchard Lake, Sylvan/Otter Lake, and Walled Lake in Oakland County; Lake St. Helen and Houghton Lake in Roscommon County; Portage Lake and Whitemore Lake in Washtenaw County; and Belleville Lake in Wayne County.
New York: Cayuga Lake in Cayuga County; Conesus Lake in Livingston County; Hinckley Reservoir and Oneida Lake in Oneida County; Cross Lake and Onondaga Lake in Onondaga County; Canandaigua Lake in Ontario County; Seneca Lake in Seneca County; and Keuka Lake in Yates County.
Ohio: Circleville Twin Quarries and Hargus Creek Lake in Pickaway County; M. J. Kerwin Reservoir in Portage County; White Star Park Quarry in Sandusky County; and Killdeer Reservoir in Wyandot County.
Vermont: Lake Champlain.
Wisconsin: Silver Lake in Kenosha County; Racine Quarry in Racine County; Lake Elkhart in Sheboygan County; and Lake Okauchee in Waukesha County.

Contact: Charles Boydstun or Amy Benson, National Biological Service, Southeastern Biological Science Center, 7920 NW 71st Street, Gainesville, FL 32653, (904) 378-8181 or FAX: (904) 378-4956

EPA Administrator Browner Speaks Out On Congress/ Environmental Issues

EPA Administrator Carol Browner, told the American Fisheries Society at their 125th Annual Meeting in Tampa, FL (August 28th) that "40% of our rivers, lakes, and streams are still not suitable for fishing or swimming". In fact, Browner said, "Fisheries around the world are in crisis."

"Last year, here in the U.S.", she said, "we had 2300 beach closures because of contaminated waters. And today, EPA is releasing a report that shows that nearly every state in the union has been forced to issue warnings advising the public to avoid or limit eating fish they catch in their local lakes ... (and) ... rivers."

Eight states have issued statewide advisories and 1250 additional water bodies in other states also carry warnings. "In Florida", she said, "every inch of coastline carries a warning, plus 80 inland water bodies and the entire Everglades. Across this country, our fish are contaminated with mercury, with PCB's, with the pesticide chlordane, with dioxin and DDT and dozens of other chemicals", she said. "Warnings of chemical contamination cover 4% of all our river miles; 14% of our total lake acreage, including all of the Great Lakes; and a large portion of the nation's coastal areas – a 20% increase over the previous year."

"The EPA report", Browner said, "clearly demonstrates that the current Congressional effort to roll back public health and environmental protection is seriously misguided." Last month she said the House passed a budget that would cut enforcement of environmental laws by 50%. In May, Browner said the House of Representatives passed an extreme rewrite of the Clean Water Act. "A bill that systematically undermines each and every one of the tools we have used to clean up our water over the past two decades", she said. According to Browner the bill would:
- remove more than half of the nation's wetlands from federal jurisdiction;
- all but eliminate EPA's ability to ensure that raw sewage is kept off beaches and out of rivers, lakes, and streams;
- restrict EPA from addressing the

nationwide problems of polluted stormwater and polluted runoff;
- cause improvements in sewage treatment and drinking water treatment across the country to be delayed or abandoned;
- prohibit EPA from issuing effluent guidelines that would eliminate 580 million pounds of industrial pollutants from our rivers, lakes and streams each year.
- require EPA to keep its Great Lakes office open, but take away its authority to implement the water quality standards that actually protect the lakes;
- cut funding for environmental research;
- slash funding for monitoring water quality;
- eliminate EPA's research program for the Gulf of Mexico;
- eliminate all funding for the Environmental Technology Initiative.
- force EPA to lay off hundreds of scientists;
- abolish the National Biological Service that takes inventory of plant and animal species; and
- cut NOAA's budget for fisheries management and data collection.

"Twenty-five years ago," Browner said, "President Nixon declared that '1970 will be known as the year of the beginning, in which we really begin to move on the problems of clean air and clean water and open spaces for the future generations of Americans'." "Let's make sure that 1995 is not the end of that effort," Browner said.

She concluded with a plea to "Let us continue to work together – scientists and citizens – Democrats and Republicans – industry and communities – to protect our health, our natural resources, and our economy – so that all of us, our children and our grandchildren can enjoy a healthy and a prosperous life."

Louisiana Pollution and River Lawsuit

Two environmental groups on September 21 said that they plan to sue the USEPA for failing to protect Louisiana's rivers and streams and allowing miles of waterways to become unsafe for fishing or swimming.

The Sierra Club Legal Defense Fund and Louisiana Environmental Action Network allege that for 16 years the EPA has failed to identify what waterways are "environmentally impaired" and "establish restrictions on the pollutants that can be introduced into them on a daily basis." The

lawsuit, which will be filed once a federally required 60-day notice expires, calls on the EPA to take control or force the state Department of Environmental Quality to comply with the Clean Water Act.

Louisiana Department of Natural Resources officials have reported that in addition to industrial outfalls, abandoned oil wells are also a problem. They have plugged 10 abandoned oil wells, but are concerned that there may be 10,000 more within the state posing groundwater dangers. When left unplugged, the wells can act as conduits for contaminants to reach drinking water supplies.

On another matter, a government plan to store billions of gallons of crude oil in vast salt caverns as insurance against a future Arab oil embargo has become "an expensive headache" in Louisiana and Texas. One southern Louisiana cavern is leaking water into the stored crude oil and, if left alone long enough, could "release a flood of oil and pollute miles of swampy coastline" in fishing grounds along the Gulf of Mexico,

Under the strategic petroleum reserve program, the federal government has stockpiled about 25 billion gallons of crude oil in Texas and Louisiana caverns at a cost of $4.5 billion. The Energy Department plans to pump out about three billion gallons over the next two years, funding the operation by selling 10% of the oil at a $100 million loss. The oil was bought in the 1970s, when prices were high.

Engineers are digging refrigeration wells to freeze water that has been seeping into the mine and enlarging the crack. Geologists found a sink-hole near the site in 1992 that tipped them off to the water leaks.

Source: Greenwire Vol. 5, Nos. 71 and 103

"Dead Zone" Expands In Gulf

The "dead zone," an area of the Gulf of Mexico that contains too little oxygen to sustain fish or marine life, has grown to 7,032 mi^2, the largest it has been in the 10 years scientists have studied the phenomena.

The low oxygen condition off the coast of Louisiana is caused by polluted runoff from farms and sewage treatment plants along the Mississippi and Atchafalaya rivers. The nutrient laden water spurs the growth of phytoplankton, which in turn depletes the oxygen supply of the water as they decompose.

In partial response, the Secretary of Commerce announced on August 3rd a $53 million disaster assistance package to be distributed among three primary commercial fishery regions, including the Gulf.

The Gulf of Mexico region will receive $15 million for fishermen who have sustained heavy uninsured losses due to Mississippi River flooding. Part of the money will be spent for equipment lost or damaged by uncharted seabed obstructions resulting from the flood. While other monies can be used to offset losses caused by the "dead zone" which has damaged fisheries and contributed to the fishing disaster.

Source: Land Letter, Sept. 1, 1995 and NOAA Legislative Informer, Sept. 1995/Issue #13

Arkansas Mercury Levels

Some 23% of Arkansas' lakes and streams are so contaminated with mercury that many large fish are unsafe to eat, according to a two-year study released in August by the Arkansas Mercury Task Force. The task force, formed in 1993 to identify mercury levels above federal safety limits, sampled fish and sediment from 170 lakes and streams.

The group is now trying to find the source of contamination and treat affected lakes and reservoirs. It also plans to test 5,000 Arkansas residents at risk for mercury poisoning. Forty other states have issued mercury advisories for fish flesh, including Alaska, which has found high contamination as far north as the Arctic Circle.

Source: Greenwire Vol. 5, No. 76

Great Lakes Contaminants

A study being conducted by Helen Daly, Director of the Oswego, NY-based Center for Neurobehavioral Effects of Environmental Toxins, reports that newborn babies' "habituation" response is being affected by toxins found in Great Lakes fish. Daly reported her findings on September 23 at an International Joint Commission Meeting on the health of the Great Lakes.

The study gives rise "for the first time to the notion that human behavior itself" may be affected by "relatively small" amounts of toxins, like PCBs, dioxin and other pollutants. From 1991 to 1994, researchers observed hundreds of newborns whose mother had "regularly" eaten fish from the Great Lakes. The study found there was a "clearly and predictably" diminishing ability to adjust to irritants such as lights, rattles, bells and pokes. Babies of mothers who ate fish occasionally neither improved or declined and babies of mothers who ate no fish quickly learned to adjust.

Daly said she would not predict how the changes in the habituation response will affect the lives of the babies, but she said an earlier study along Lake Michigan found physical changes caused by the toxins increased with time.

A USEPA opinion survey of 2,000 people released on September 23 reports that 79% of residents of Great Lakes states are "personally

concerned" about the lakes' environment and want more done to protect it. Less than 2% want decreases in human health and environmental protection measures.

Source: Greenwire Vol. 5, No. 104

Climate Change

The Intergovernmental Panel on Climate Change (IPCC) has said for the first time that human activities have helped cause a 1° F rise in surface temperatures over the past century. The IPCC's findings are based on new computer simulations believed to be more accurate than previous models.

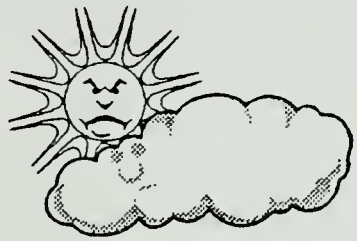
The draft conclusions from the IPCC, a panel of scientists who advise the world's governments on climate change, said the warming trend "is unlikely to be entirely due to natural causes and that a pattern of climatic response to human activities is identifiable in the climatological record."

The report also found that the trend will continue in the future. If no attempt is made to reduce greenhouse gas emissions, the draft predicts that average global temperatures will rise between 1.44 and 6.3° F by the year 2100, a figure that represents only 50-70% of the eventual warming; and regardless of what action is taken, average surface temperatures will increase by 1-3.6° F.

The report also predicts that while a warmer world may offer some benefits, there will be many adverse effects, including extreme weather, rising seas, loss of ecosystems that cannot adapt rapidly, and an increase in some tropical diseases.

The draft's wording may change during the final round of review, but scientists who authored the chapter on which the summary draft is based say they don't expect any substantial changes. The chapter on causes of climatic warming was written by Benjamin Santer of the Lawrence Livermore Laboratory, Tim Barnett of the Scripps Institution of Oceanography and Ebby Anyamba, a Kenyan at the NASA Goddard Space Flight Center.

According to an article by Amal Kumar Naj in the Wall Street Journal, "Weather scientists confirmed many people's impression that a consistent pattern of annual rainfall is increasingly being replaced by one-day downpours, possibly due to global warming". According to the study, published in NATURE, the fraction of total summer rain that has come from heavy downpours grew 2-3% since 1911.



National Oceanic and Atmospheric Administration (NOAA) scientists analyzed rainfall and temperature records from the past 30 to 80 years at 647 sites in the U.S., China, Australia and Soviet Union.

Some climatologists theorize that as carbon dioxide levels increase, the atmosphere will retain more water vapor, leading to more intense levels of rain and snowfall. According NOAA's Thomas Karl, "One of the projections of a warmer world is that precipitation intensity will increase, and that seems to be what we are observing in the United States".

The trend is "most notably" pronounced in the U.S., where scientists found the number of "light" and "moderate" rainfall events had declined sharply while "extreme" downpours had increased "substantially". Within the U.S., the effect was greatest between the Rocky Mountains and the Appalachians.

Karl said annual average U.S. rainfall levels of 35-40 inches have not changed, but one-day downpours of two inches or more have become more common in the last 20 years. Before, they would have occurred once or twice a year, but in recent years an extra rainfall of that size has occurred every two years.

The NOAA study also found that temperature changes have gotten smaller in the U.S. since 1911, in the former Soviet Union since 1935, and in China since 1952. Karl said that the finding is consistent with computer simulations of greenhouse gas induced climate change.

Researchers also said that while the earth as a whole is getting warmer, nights appear to be warming faster than days. Nearly all of the 0.8 degree increase in average U.S. temperatures is a result of warmer nights, not warmer days.

Source: Greenwire Vol. 5, Nos. 92 and 100

Frogs/Pesticides

"Despite its reputation as a safe, environmentally friendly weedkiller," Monsanto's widely used Roundup herbicide could be killing Australia's frogs, according to new research funded by the West Australian Department of Environmental Protection.

The study, conducted by Curtin University biologists Joseph Bidwell and John Gorrie, found that in the laboratory, Roundup and its "chemical cousins" can be deadly to three species of tree and ground frogs common to western and southern Australia. The two said the problem was not with glyphosphate, such herbicides active ingredient, but with the

detergent used to spread the herbicide and help it penetrate the weeds.

Robert Humphries of the Water Resources Council of Western Australia and Ken Aplla of the Museum of Western Australia, whose organizations were also involved in the study, said the chemicals were "extremely toxic to

tadpoles and marginally toxic to adult frogs, even with a slight over application." Monsanto Australia Ltd.'s Nicholas Tydens disagreed: "We have investigated every claim about ... Roundup affecting aquatic organisms. All the evidence to date shows there is no adverse effect."

The Commonwealth National Registration Authority (NRA) for Agriculture and Veterinary Chemicals recently asked the Commonwealth Environmental Protection Agency to review the study. According to NRA's Greg Hooper, the authority recommended that NRA consider "warning statements and further regulatory action" for the herbicides.

Source: Greenwire Vol. 5, No. 96

Russia Life Expectancy

Life expectancy in Russia has "plummeted again this year, and scientists and public health officials say they cannot explain the continuing steep decline." But "frustrated by explanations that just don't add up," scientists are looking more closely at the "history of Soviet ecological abuse" for answers.

The preliminary findings are "not reassuring." In 1990, 388 of every 10,000 children born in Russia died of congenital abnormalities; in 1994, that rate reached 436 per 10,000, according to the Russian Ministry of Health. "Those are just numbers for defects serious enough to kill." More recently, the Russian Labor Ministry released figures showing that if the trend continues, nearly 50% of Russia's youth will not survive to the retirement age of 55 for women and 60 for men.

Aleksandr Chuchalin, a member of the Russian Academy of Sciences, has begun to examine the link between such birth defects and radiation from nuclear waste dumps and test sites. "Obviously, it's not enough any more to say that our life style accounts for these numbers. No life style could account for all of this", Chuchalin said.

Source: Greenwire Vol. 5, No. 66

Arkansas Begins Enforcing Ban on Gravel Mining

Arkansas pollution inspectors on September 18 began enforcing a new state ban on gravel mining in threatened streams and rivers, after the expiration of a three-month grace period. Two of four known gravel mining operations shut down hours before inspections began, but no violations were found.

Mining has eroded stream banks and widened the streams. "Extraordinary resource waters" now protected from mining include rivers and creeks that have scenic, scientific and recreational value. Gravel mining in unprotected streams remains legal, although it requires a permit from the Army Corps of Engineers.

Source: Greenwire Vol. 5, No. 100

Environmental Bill of Rights

More than one million Americans have signed an Environmental Bill of Rights petition to be sent to Congress, according to a coalition of environmental groups led by the Sierra Club and the Public Interest Research Groups (PIRG). The organizations held news events in more than 60 U.S. cities to announce their progress with the petition, which "asserts every American's right to a safe and healthy environment and demands that the Congress stop its rollback of critical environmental programs."

According to Gene Karpinski, Executive Director of U.S. PIRG, "This tremendous outpouring of public support for the Environmental Bill of Rights should send a loud and clear wakeup call to Congress: stop the rollback and save the environment." The groups will take the petitions to Washington, DC in October for delivery to House Speaker Newt Gingrich (R/GA), Senate Majority Leader Bob Dole (R/KS) and other members of Congress.

Source: Greenwire Vol. 5, No. 101

Environmental Regs Trigger Innovations/ Reduce Costs

Two business professors report in a recent issue of the "Harvard Business Review" that properly designed environmental standards can trigger innovations that make products less expensive and companies more competitive. Currently, emphasizing the "static costs" of regulation, all sides have acted in ways that "drive up costs and slow down progress on environmental issues." But by focusing on "resource productivity," society can gain environmental improvement and competitiveness at the same time.

Study authors Michael Porter of the Harvard Business School and

Claas van der Linde of Switzerland's St. Gallen University working with the Management Institute for Environment and Business (MEB) in Washington, DC studied six industries, and concluded that the data "clearly show" the costs of environmental regs "can be minimized, if not eliminated, through innovation that delivers other competitive benefits."

For example, of 181 waste prevention activities studied, only one resulted in a net cost increase. Of 70 activities with documented changes in product yield, 68 reported increases. Of 38 initiatives with detailed payback information, nearly two-thirds recouped their initial investments in six months or less. The article delves into the details of many case studies.

"If such opportunities exist, wouldn't companies pursue them naturally and wouldn't regulation be unnecessary?" the authors ask. "In fact, in the real world, managers often have highly incomplete information and limited time and attention." Companies are still "inexperienced" in handling environmental issues "creatively," and consumers are "unaware" that resource inefficiency leads to higher prices. Moreover, the current system of environmental regulation often deters innovative solutions, they write. By imposing strict deadlines, regulators have forced industries to lock in existing technologies. And in the "adversarial" political struggle over regs, companies spend "enormous amounts of resources" that could be devoted to innovation and cleanup.

The authors argue that regulations are needed, but that they can best promote resource productivity such as employing phase-in periods; using market incentives; harmonizing regulations in associated fields and developing them in sync with other countries; and requiring industry participation in setting standards.

"How an industry responds to environmental problems may, in fact, be a leading indicator of its overall competitiveness." A "truly" competitive industry is more likely to view regulations as a "challenge," while an uncompetitive industry may be tempted to fight rules. General managers must be involved in environmental strategies if innovation is to play a role.

Source: Greenwire Vol. 5, No. 89

Colorado River Endangered Fish Ponds

Ponds are being constructed on the Upper Colorado River in Colorado (near Grand Junction and Craig) and in Utah (near Big Water and Ouray) to serve as endangered fish "refuge" ponds. The ponds will be used to maintain various genetic strains of endangered razorback suckers for adult brood stock, stocking and research.

John Hamill, a U.S. Fish and Wildlife Service biologist who directs the Recovery Program said, "We need to have adequate facilities in more than one location. Then if an accident occurs at one site, we still have a backup population of fish in another." Endangered fish currently are held in ponds on the Horsethief Canyon State Wildlife Area near Fruita, CO, the Ouray National Wildlife Refuge near Vernal, UT; and the Valley City National Fish Hatchery in ND.

Under current plans four one-acre ponds will be built at the Craig facility to hold razorback suckers from the Green River. Eight acres of leased ponds in Grand Valley will hold upper Colorado River razorbacks. Four one-acre ponds will be excavated at the Big Water site. Called the Wahweap facility, this site will hold a backup population of upper Colorado River razorbacks as well as other endangered fish. Water supplies will be improved and four more ponds will be added at the Ouray, UT hatchery.

Razorback sucker numbers have dropped dramatically in recent years with only about 500 wild adult razorbacks left upstream of Lake Powell. Researchers believe the primary reason for the fishes' decline is lack of suitable habitat, caused primarily by dams, which have blocked fish migration paths and altered river flows; and non-native fish, which are believed to compete with and prey upon endangered fish.

Conservation groups have expressed concerns that endangered fish would be harmed if non-native bluegill, black crappie and largemouth bass are allowed to be stocked in ponds in the 10- to 50-year flood plain of the upper Colorado River basin. State of Colorado and Fish and Wildlife Service officials are currently trying to resolve these issues.

The Colorado Division of Wildlife had previously agreed to offer to remove non-native fish from private ponds in the zero- to 10-year flood plain. Designed to offset potential impacts of such stocking, this would be a voluntary program involving only those landowners who were willing to participate. Once non-native fish were removed, the proposed procedures would allow for restocking the ponds with trout. Trout are not considered a threat to endangered fish and could continue to be stocked anywhere in the upper Colorado River Basin.

First drafted in early 1994, the stocking procedures are aimed at resolving conflicts between the stocking of non-native fish and recovery of native, now-endangered, Colorado squawfish, razorback suckers, humpback chubs and bonytail chubs. Two previous versions of the stocking procedures were sent to angler groups, environmental organizations, aquaculture

representatives and other interested individuals.

Contact: Connie Young, U.S. Fish and Wildlife Service, Box 25486, Denver Federal Center, Denver, CO 80225, (303) 236-2985, ext. 227

Cooperative Salmon Management

The governors of Washington and Oregon on September 15 joined Indian tribal leaders, environmental groups, and timber and fishing representatives to launch a new group to improve habitat for Northwest salmon.

The group, "For the Sake of the Salmon," will encourage local efforts in OR and WA to restore spawning streams and watersheds, offer technical advice, and help overcome bureaucratic barriers, according to Executive Director Bill Bradbury. The organization, which was started with a $125,000 grant from the National Marine Fisheries Service, will also develop incentives for private landowners to protect watersheds, design a system to measure the effectiveness of recovery efforts, and teach the public about restoring salmon runs.

"chinnook salmon"

Washington Gov. Mike Lowry (D) and Oregon Gov. John Kitzhaber (D) signed the group's charter and stressed that salmon have economic and cultural importance to the region. Northwest Indian Fisheries Commission's Billy Frank, who signed the charter, said the group provides practical ways to help restore the salmon and a forum for people to talk out their differences.

In the meantime, Congress may create a new northwest regional fish and wildlife agency to oversee restoration of endangered salmon and other species that cross state lines. According to Idaho Sen. Larry Craig (R) no specific legislation has been drawn up, but plans are being considered.

The regional agency might replace or be modeled after the Northwest Power Planning Council (NPPC), with two representatives from each state overseeing species recovery projects. Craig said that current NPPC plans to save salmon are "too strident and would do economic harm to the region." He plans to cap spending on endangered salmon at about $300 million.

But Charles Ray of Idaho Rivers United, criticizes Craig's plan: "We've already got a regional body with state representation, and that's called the Northwest Power Planning Council. The reason it's been so ineffective is because people like Larry Craig have sabotaged everything they've done."

If a regional compact took over salmon restoration work, the National Marine Fisheries Service could continue to provide expertise and conduct studies, according to Craig.

Source: Greenwire Vol. 5, No. 66 and 97

Coded Wire Tags and Law Enforcement

A paper recently presented in Nashville, TN at the 49th Annual Conference of Fish & Wildlife Agencies described the use of coded wire tags in law enforcement.

The coded wire tagging system, currently being used for the MICRA paddlefish tagging project, was originally developed to mark small pacific salmon in a manner that minimizes effects on the fish while providing positive identification.

The tags, small enough to be used in tiny salmon fry, are etched with a binary code that can provide more than 250,000 unique identifications on a 1.0 mm tag. The tags, made from medical grade stainless steel, are specially treated to hold a magnetic charge which provides the means of locating or detecting it in the target organism.

Tests with various other species of fish, marine worms, crustaceans, turtles and other animals indicate that coded wire tags are suitable for permanently marking a wide range of organisms and tissues. The system, more than 20 years old, has resulted in hundreds of thousands of tag recoveries on the Pacific Coast alone. More than 40 million Pacific Coast salmon are tagged each year.

Law enforcement officials of the Washington Department of Fisheries (WDF), and the National Marine Fisheries Service (NMFS) began using coded wire tags as a law enforcement tool to mark salt water clams in 1988. WDF and NMFS officials used the tags as a means to determine if clams harvested in accordance with Indian Treaty rights (for tribal consumption) from sewage fouled beaches were being illegally sold for public consumption.

In that instance, clam diggers were known to be sacking and then stashing clams along the beach for later retrieval. After locating the stashes, WDF and NMFS officials covertly implanted coded wire tags into less than one hundred clams scattered among thousands of others that were sacked. The diggers were subsequently observed loading a pick-up truck and were followed to fish buying establishments in three Puget Sound area cities.

Following the issuance of warrants, searches for tags were conducted that required pouring thousands of pounds of clams through a 4-inch Tube Detector. When passing

through the detector (designed for salmon heads), a tag's magnetic charge triggers a "beep" and a flash from a red bulb. Since untagged clams are simultaneously passing through the tube, it is then necessary to pause to drop individual clams through the detector to isolate a tag. Other ferromagnetic particles can cause a positive signal so it is necessary to dissect the tags for positive identification.

Searches of three establishments resulted in recovering 20 tagged clams (a ratio of about one tag in every 3000 clams passed through the detector). The sacks containing the tagged clams were falsely labeled with certification that they were from a clean beach. This initial effort resulted in 27 convictions and the confiscation of tons of clams and a pick-up-truck. The technique continues to be used.

In New Mexico U.S. Fish and Wildlife Service special agents working in cooperation with the State suspected that live-trapped cougars, legally sold out-of-state, were being returned as illegal quarry in "canned" hunts (unknowing hunters were paying to kill captive animals). As a result, coded wire tags were sealed with epoxy in hollows beneath specific claws of the live "deported" cougars. These tags could later be recovered in the field or in various stages of taxidermy without special equipment since their precise location was known.

In Alberta, Canada fish and wildlife officials use coded wire tags extensively for law enforcement. In a recent example, following the tagging of a walleye discovered in an illegal gillnet, the fish was traced to a restaurant. The owner was fined $17,000 and made a public apology in a local newspaper. The fishermen was sentenced to 90 days in jail. Illicit traffic in bear claws, eagle feathers and bear galls has also been traced through the covert use of coded wire tags.

Contact: Frank Haw, Northwest Marine Technology, 2401 Bristol Court S.W., Olympia, WA 98502 (360) 754-4568.

International Recreational Fisheries Symposium

A Symposium on the social, economic and management aspects of recreational fisheries will be held in Dublin, Ireland on June 11-14, 1996.

The Symposium sponsored by the European Inland Fisheries and Advisory Commission (EIFAC) will bring together international experts in the field of recreational fisheries to exchange information among countries with a view to:
- Identifying factors which influence, enhance and inhibit the present use and future development of recreational fisheries;
- Developing strategic guidelines for the effective management of recreational fisheries; and
- Formulating a code of good practice for fishermen taking part in recreational fishing.

The Symposium will examine all aspects of recreational fishing in inland waters, in accordance with the following themes:
- Current status and trends in recreational fisheries;
- Interactions between recreational fisheries and other sectors;
- Criteria for the management of recreational fisheries;
- Socio-economic aspects of recreational fisheries;
- Priorities for research and development including education and training; and
- The future of recreational fisheries over the next decade.

Contact: Dr Phil Hickley, National Rivers Authority, 550 Streetsbrook Road, Solibull B91 1QT, United Kingdom, Tel: 0121 711 5813 or FAX 0121 711 5824.

Meetings of Interest

October 22-24: States Rights "Summit on Federalism", Cincinnati, OH. The conference, announced by Governor Ben Nelson (D/NE), would "identify and prioritize proposals," and will include legislators, governors and state government organizations.

October 23-27: WFTEC '96: The Water Environment Federation's 68th Annual Conference and Exposition, Miami, FL. Contact: Water Environment Federation, 601 Wythe Street, Alexandria, VA 22314-1994. (800) 666-0206.

October 25-28: 1995 Natural Areas Conference, "Exploring the Power of Collaboration", Fayetteville, AR. Contact: Shellie Melson, University of Arkansas, Division of Continuing Education, #2 University Center, Fayetteville, AR 72701.

October 28: Symposium on The Bottomland Hardwoods of the Mississippi Alluvial Valley: Characteristics and Management of Natural Function, Structure, and Composition, Fayetteville, AR. Contact: Scott C. Yaich, U.S. Fish and Wildlife Service, Wildlife and Habitat Management Office, P.O. Box 396, St. Charles, AR 72140, (501) 282-3213, FAX (501) 282-3391

November 5-9: 31st Annual Conference & Symposia of the American Water Resources

Association, Wyndham Greenspoint Hotel, Houston, TX. Contact: John S. Grounds III, Halff Assoc., Inc., 3701 Kirby, Suite 1290, Houston, TX 77098, (713) 523-7161 or FAX (713) 523-4373.

November 14-16: 11th Annual Midwest Environmental Roundtable, Lake Geneva, WI. "Achieving Environmental Goals Through Partnerships," organized by the Bureau of Land Management, U.S. Fish & Wildlife Service and USEPA. Contact: Bill Franz, (312) 886-7500.

November 27-30: Zebra Mussel Workshop '95, New Orleans, LA, sponsored by the Corps of Engineers and a host of other agencies. Contact: Larry Sanders, (601) 634-2976.

December 4-6: Second Annual Acid Mine Drainage Workshop, Cincinnati, OH. Contact: Lisa Grayson, Terrene Institute, 1717 K Street NW, Suite 801, Washington, DC 20006. (202) 833-8317, Fax: (202) 296-4071.

December 5-6: Louisiana Coastal Hypoxia Management Conference, Radisson Hotel, Kenner, LA.

February 23-26: AFS Southern Division Midyear Meeting, Adam's Mark Riverview Plaza, Mobile, AL. Contact: Patricia Mazik, Chair, Program Committee SFCL, Rt. 3, Box 86, Marion, AL 36756 (334/683-6175).

March 5-7: Sixth International Zebra Mussel and Other Aquatic Nuisance Species Conference, Dearborn, MI, hosted by Michigan Sea Grant, (800) 868-8776.

June 11-14: Symposium on Social, Economic and Management Aspects of Recreational Fisheries, Dublin, Ireland. Contact: Dr Phil Hickley, National Rivers Authority, 550 Streetsbrook Road, Solibull B91 1QT, United Kingdom, Tel: 0121 711 5813 or FAX 0121 711 5824.

Congressional Action Pertinent to the Mississippi River Basin

Agriculture

S. 854 (Lugar, R/IN) forms the basis of the conservation title of the 1995 Farm bill, including recommendations for the **Conservation Reserve Program, Wetlands Reserve Program, Conservation Incentive and Cost Share programs.**

S. 935 (Sarbanes, D/MD) amends the Food Security Act of 1985 to establish a program to promote development of riparian forest buffers in conservation priority areas.

H.R. 67 (Bereuter, R/NE) extends the **Conservation Reserve Program** for 10 years and the **Wetlands Reserve Program** for 5 years.

Fish & Wildlife

S. 191 (Hutchison, R/TX) and H.R. 490 (Smith, R/TX) amends the **Endangered Species Act** imposing a moratorium on new listings and critical habitat designations.

S. 455 (Kempthorne, R/ID) clarifies consultation procedures under the **Endangered Species Act** on management of federal lands.

S. 503 (Hutchison, R/TX) freezes **Endangered Species Act** listings and critical habitat designations.

S. 851 (Johnston, D/LA) amends the **Clean Water Act** to reform the wetlands regulatory program.

S.1152 Conrad Burns (R/MT) amends the Endangered Species Act of 1973 with common sense amendments to strengthen the act, enhance wildlife conservation and management, augment funding, and protect fishing, hunting, and trapping.

H.R. 1714 (Dooley, D/CA) amends the **Endangered Species Act** to require expeditious review of species being considered for listing under the act or currently listed under the act.

H.R. 2160 (James Saxton (R/NJ) entitled "Cooperative Fisheries Management Act of 1995." Reauthorizes the Interjurisdictional Fisheries Act.

H.R. 2217 Pete Geren (D/TX) entitled the "Common Sense Amendments for An Endangered Species Act."

Forests

S. 647 (Lott, R/MS) amends the **Forest and Rangeland Renewable Resources Planning Act of 1974** to require that major changes to forest management plans be phased in over time to minimize impact to communities.

H.R 1089 (Cremeans, R/OH) ensures that acquisition of lands for inclusion in the National Forest System does not result in a loss of tax revenue to the affected county.

H.R. 1439 (Metcalf, R/WA) amends the **National Forest Management Act of 1976** to require that the timber sale program conducted by the Forest Service on forest system lands be financed only by receipts from the sale of timber under the program.

Government Affairs

S. 169 (Grassley, R/IA) curbs the practice of imposing unfunded

federal mandates on states and local governments.

S. 1001 (Glenn, D/OH) reforms the regulatory process, providing for cost-benefit analysis risk assessment of major rules, and calls for a review of existing rules.

Grazing

S. 193 (Campbell, D/CO) establishes a forage fee formula on Agriculture and Interior department lands.

S. 629 (Thomas, R/WY) prohibits requiring environmental assessments for grazing permit renewal under the **National Environmental Policy Act**.

S. 636 (Daschle, D/SD) requires the Agriculture Secretary to issue new term grazing permits on National Forest System lands to replace expired or expiring grazing permits.

S. 852 (Domenici, R/NM) and H.R. 1713 (Cooley, R/OR) provides for the uniform management of livestock grazing on federal lands.

H.R. 1375 (Cooley, R/OR) provides for extension of expiring term grazing permits for lands within the National Forest System.

Mining

S. 504 (Bumpers, D/AR) amends the Mining Law of 1872, imposing a royalty on mineral operations and reforming the process for mineral development.

S. 506 (Craig, R/ID) amends the Mining Law of 1872 imposing a royalty on mineral operations and reforming the process for mineral development.

S. 639 (Campbell, R/CO) amends and reforms the Mining Law of 1872 providing for the disposition of locatable minerals on federal lands.

Parks

S. 964 (Johnston, D/LA) amends the Land and Water Conservation Fund Act of 1965 giving the Interior Secretary authority to collect entrance fees at National Parks for direct use on priority park maintenance and repair projects.

H.R. 260 (Hefley, R/CO) provides for a plan and management review of the National Park System, and reforms the process for considering additions to the system.

H.R. 1280 (Hefley, R/CO) establishes guidelines for determination of National Heritage Areas.

H.R. 1301 (Vento, D/MN) establishes the National Heritage Area Partnership Program.

H.R. 1449 (Roberts, R/KA) provides for establishment of the Tallgrass Prairie National Preserve in Kansas.

H.R. 1846 (Richardson, D/NM) establishes the Yellowstone Headwaters National Recreation Area within Montana's Gallatin and Custer National Forests

Public Lands

S. 93 (Hatfield, R/OR) amends the Federal Land Policy and Management Act providing for ecosystem management on public lands.

S. 449 (Simon, D/IL) establishes the Midewin National Tallgrass Prairie in Illinois.

S. 518 (Thomas, R/WY) limits federal acquisitions in states where 25% or more of the land is owned by the United States.

S. 1031 (Thomas, R/WY) and H.R. 2032 (Hansen, R/UT) transfers lands administered by the Bureau of Land Management to the states.

Recreation

H.R. 104 (Emerson, R/MO) rescinds fees required for use of public recreation areas at lakes and reservoirs under jurisdiction of the Army Corps of Engineers.

Refuges

H.R. 91 (Sensenbrenner, R/WI) prohibits land or water acquisition for the National Wildlife Refuge System if wildlife refuge revenue sharing payments have not been made for the preceding year.

S. 1013 (Conrad, D/ND) authorizes the Interior Secretary to acquire land for the purpose of exchange for privately held land for use as wildlife and wetland protection areas.

H.R. 1112 (Brewster, R/OK) and S. 978 (Nickles, R/OK) transfers the Tishomingo National Wildlife Refuge to the state of Oklahoma.

H.R. 1675 (Young, R/Ak) improves management and establishes purposes of the National Wildlife Refuge System.

Rivers

H.R. 1260 (Johnson, D/SD) ensures equity in and increased recreation and economic benefits from the Missouri River system.

Takings

S. 135 (Hatch, R/UT) establishes a uniform federal process for protecting private property rights.

S. 145 (Gramm, R/TX) provides for protection of private property rights.

S. 605 establishes a uniform system for protecting property rights and compensating landowners adversely affected by regulations.

H.R. 9 (Archer, R/TX) creates jobs, enhances wages, strengthens

private property rights and reduces the power of the federal government.

H.R. 971 (Wyden, D/OR) ensures that homeowners have access to information and opportunities to comment on actions that may decrease home values, and establishes a compensation program for development that produces pollution or otherwise impacts home values.

Water and Wetlands

S. 49 (Stevens, R/AK) amends the **Clean Water Act** providing for exemptions to wetlands regulations and protection of property rights in Alaska.

S. 626 (Hatfield, R/OR) amends the Watershed Protection and Flood Prevention Act establishing a technical assistance and grant program for waterways restoration.

S. 639 (Warner, R/VA) authorizes civil works programs for the Army Corps of Engineers which preserves the navigation of channels and harbors and provides for flood control and storm damage reduction.

H.R. 198 (Smith, R/MI) amends the Food Security Act of 1985 permitting conversion of wetlands smaller than one acre in size.

H.R. 226 (Dingell, D/MI) amends the Safe Drinking Water Act assuring the safety of public water systems.

H.R. 961 (Shuster, R/PA) reforms and reauthorizes the **Clean Water Act**.

H.R. 1132 (Oberstar, D/MN) amends the **Clean Water Act** providing for improved non-point source pollution control.

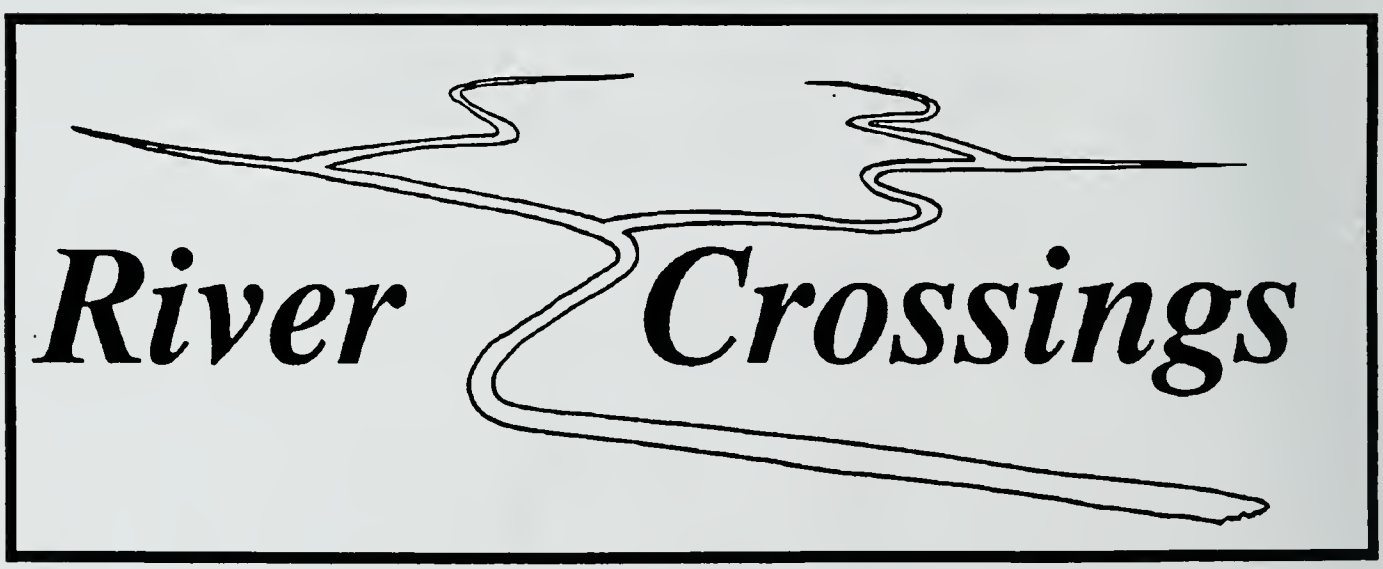
H.R. 1262 (Pallone, D/NJ) amends the **Clean Water Act** improving enforcement and compliance programs.

H.R. 1268 (English, R/PA) establishes a comprehensive program for conserving and managing wetlands.

H.R. 1438 (Lowey, D/NY) amends the **Clean Water Act** to provide funding to the states for estuary conservation.

Source: Land Letter, Vol. 14, No. 17 and 20; and NOAA Legislative Informer, September 1995, Issue #13

Mississippi Interstate Cooperative Resource Association
P.O. Box 774
Bettendorf, IA 52722-0774



River Crossings

Volume 4 November/December 1995 Number 6

Happy Holidays!

With this issue we end our fourth year of publishing "*River Crossings*". Our circulation continues to rise, and we appreciate the many helpful comments and materials received over the years from our readers.

Here's wishing all of you a joyous holiday season and a very happy new year!

Mississippi Interstate Cooperative Resource Agreement Act of 1995

Congressman Steve Gunderson (R/WI) has drafted legislation authorizing, "The Secretary (of the Interior), in cooperation with...(MICRA) to...conduct a (three year) pilot test of the Mississippi Interstate Cooperative Resource Agreement." Such a test would help leverage funding to:

- Identify and describe the Basin's interjurisdictional rivers and their associated fishery resources and habitats;
- Identify and describe the known impacts of agriculture, navigation, flood control, power generation, irrigation and municipal water supply projects, nonpoint source pollution, dredging, channel maintenance, water level management, sediment and contaminant transport, vessel traffic, water withdrawal, and changes in salinity and various hydrologic conditions on the Basin's aquatic resources;
- Identify and describe techniques for mitigating those impacts;
- Analyze existing resource data with regard to regional depletion of important fish stocks and the potential for their restoration;
- Identify major information gaps and technological needs to improve the cooperative management of interjurisdictional fishery resources;
- Evaluate of the status, and the management, research, and restoration needs of the Basin's interjurisdictional fishery resources;
- Develop recommendations regarding the scope, schedule, regional priorities, and roles of participants in MICRA for undertaking cooperative management and research projects;
- Develop plans and test projects

INSIDE THIS ISSUE

for the restoration and enhancement of depleted fish stocks and their habitats;
- Evaluate the feasibility and success of the MICRA program and the merits of extending such a program to other interjurisdictional river basins in the United States.
- Estimate the funds required to implement recommendations and plans developed under the test project.

Gunderson plans to introduce this bill yet this Congressional session, and is currently seeking cosponsors. Interested persons are encouraged to contact their Congressmen, requesting that they sign on as cosponsors of such a bill.

Environmental Issues In the Federal Budget

According to environmental news sources, republican lawmakers have turned to the budget process to change natural resource policy in the U.S. They are using the budget to enact policy changes which they were unable to steer through both houses of Congress.

Major environmental issues impacted by this action include the following:

- **Arctic National Wildlife Refuge (ANWR):** The House Resources Committee [Chairman Don Young (R/AK)], and Senate Energy Committee [Chairman Frank Murkowski (R/AK)] have acted to open the heralded ANWR to oil and gas development. Proponents also include Alaska Gov. Tony Knowles (D), a majority of the state's Republican-controlled legislature, and some Alaska natives living inside the refuge. Drilling in ANWR has been hotly debated for almost two decades, raising considerable passion because the ANWR is considered one of the last unspoiled places on the Arctic plain and is home to hundreds of plants and animal species. It is a critically important denning area for polar bears and for the Porcupine caribou herd on which the Gwich'in native people depend for survival. According to Interior Secretary Bruce Babbitt, oil produced from such drilling will be shipped to Japan rather than to the U.S., and he argues that this is nothing more than a rape of America's pristine natural resources by the greed of private oil companies.

- **National Parks Closures:** One of the most controversial moves made by the House Resources committee came at 10:30 p.m. on September 19, when Rep. Jim Hansen (R/UT) succeeded in tacking H.R. 260 (his broad national park system reform bill) onto the reconciliation bill. Just 10 hours earlier, H.R. 260, which had been dubbed a "parks closure bill" by opponents because it establishes a commission to review the holdings of the park service for possible privatization, was defeated on the floor of the House by a bipartisan vote of 231 to 180. In conference, the Hansen amendment was approved 23-7. A number of Democrats joined their Republican colleagues in supporting the amendment, including traditional parks advocates Reps. George Miller (D/CA) and Bruce Vento (D/MN). Rep. Bill Richardson (D/NM), who led the effort to defeat the bill on the House floor, stood no chance for a repeat success in committee. Environmentalists were outraged.

- **National Parks Concessions:** Included in the reconcillation bill was another Hansen bill (H.R. 2107), which provides for the reform of federal policies with respect to concessionaires

River Crossings

Published by

Mississippi Interstate Cooperative Resource Association (MICRA)
P.O. Box 774
Bettendorf, IA 52722-0774

MICRA Chairman
Mike Conlin, Illinois Department of Conservation, Springfield

Executive Board
Mike Conlin, Member at Large
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Bob Hanten, South Dakota Game, Fish & Parks Department, Pierre
Bill James, Indiana Department of Natural Resources, Indianapolis
Gary Edwards, U.S. Fish & Wildlife Service, Washington, D.C.
Chris Ungate, Tennessee Valley Authority, Knoxville, TN

MICRA Coordinator/Executive Secretary and Newsletter Editor
Jerry L. Rasmussen, U.S. Fish & Wildlife Service, Bettendorf, Iowa

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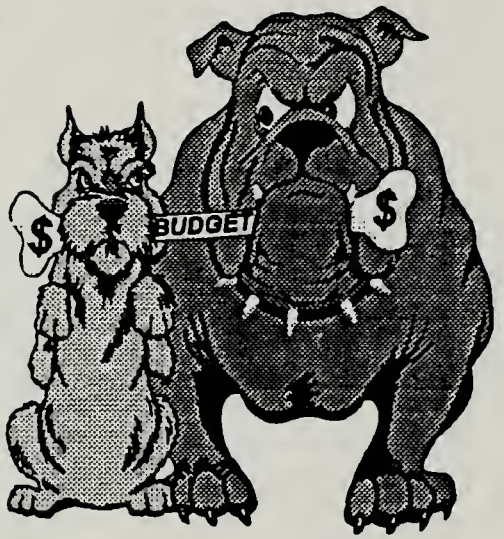
River Crossings is a mechanism for communication, information transfer, and coordination between agencies, groups and persons responsible for and/or interested in preserving and protecting the aquatic resources of the Mississippi River Drainage Basin through improved communication and management. Information provided by the newsletter, or opinions expressed in it by contributing authors are provided in the spirit of "open communication", and do not necessarily reflect the position of MICRA or any of its member States or Entities. Any comments related to "River Crossings" should be directed to the MICRA Chairman.

operating on park system lands. The bill would, among other things, lift price controls on food and lodging services provided by park concessionaires. According to Bill Chandler of the National Parks and Conservation Association, "Under this bill, the sky's the limit for cashing in on the parks and park visitors."

• **Grazing:** The reconciliation bill imposes a new fee structure for livestock grazing and overturns Interior Secretary Bruce Babbitt's new rangeland regulations, which took effect August 21. The grazing provisions are nearly identical to that in H.R. 1713, an industry-backed grazing bill introduced by Rep. Wes Cooley (R/OR) and approved by the House parks and public lands panel on September 12. The new fee structure ties payment to the total gross value of cattle production and the current rate of return on 6-month U.S. Treasury securities. That would mean an approximate current fee of $2.10/animal unit month (AUM), as compared to $1.61 under existing rules, according to Brian Garber of the Public Lands Council. Like H.R. 1713, the measure codifies Bureau of Land Management regulations that were in effect prior to Babbitt's rules. The livestock industry much prefers the current regulatory framework to that proposed by Babbitt. In a letter to Rep. Young on September 19, Babbitt criticized inclusion of the grazing provisions, "The committee's provisions would allow states to define billable units of livestock on federal public rangelands, impose an administratively complex and expensive grazing fee formula, exempt livestock born on public rangelands from being subject to fees altogether, extend the term of grazing permits from 10 to 15 years, and exempt from NEPA compliance most important range management decisions," he wrote. Under the bill, general land use plans would remain subject to review under NEPA, but site specific decisions would not require an environmental assessment.

• **Mining Reform:** In a press conference October 22, Babbitt directed some of his harshest comments at the committee's inclusion of what he called "sham mining reforms" that lift the moratorium on mineral patents and perpetuate many of the terms of the 1872 Mining Law. The House version re-opens the controversial practice of patenting, which under current law allows mining companies to take title to public lands for as little as $2.50 or $5.00/acre, but it requires companies instead to pay fair market value for the land's surface



rights. According to Interior Department figures, that means that a company like Faxe Kalk, Inc., which this year paid $275 for an estimated $1 billion worth of minerals on 110 acres of land would pay roughly $22,000. American Barrick-Goldstrike Mines, which last year patented 1,673 acres and $10 billion in gold reserves, would pay about $100,375. Under the provisions of the 1872 mining law, the Canadian-based firm paid the government $9,765 for the land. In addition, the House provisions call for a 3.5% royalty on net proceeds, with various exemptions and reductions. The Congressional Budget Office has said the royalty would bring in "negligible revenues," and the Interior Department maintains that the cost of administration would likely exceed the amount collected.

• **Logging:** The Senate budget bill includes a provision, inserted by Sen. Ted Stevens (R/AK), which is aimed at increasing the amount of timber cut in Alaska's Tongass National Forest. The provision requires the Forest Service to implement a 1992 management plan, known as Alternative P, even though the agency is currently reviewing and revising its Tongass Land Management Plan. The provision permits the planning process to continue, but requires that any amendments to the plan or Alternative P maintain at least the number of acres suitable for logging under that alternative. It also insulates Alternative P from legal challenges, by declaring it "sufficient to satisfy all requirements of applicable laws." Alternative P provides for an annual 418 million board feet timber program, with a suitable land base scheduled for timber harvest of 1,649,000 acres. Environmental groups say the provision would dramatically increase logging in the Tongass National Forest. According to the Alaska Daily News the plan would require the Forest Service "to spend all of its time and money implementing a 4-year-old draft timber plan that could result in logging rebounding to a record-setting pace over the next decade." In an August 4 letter to Senate Appropriations Committee Chairman Mark Hatfield, Agriculture Secretary Dan Glickman denounced the measure for superseding the agency's planning process. "Alternative P is out-of-date, does not reflect current scientific information, and ignores the approximately 6,000 comments provided by the public when this alternative was first presented," he wrote. The bill's language also overturns a recent court decision requiring new environmental impact statements for certain timber sales. "It's a plain and

transparent effort, again without any debate on the merits of forest policy, to open up the Tongass to timber companies and continue the long discredited policy of giving away timber resources at below cost, in most instances so the logs can go to create more jobs in Japanese timber mills," a visibly frustrated Babbitt said October 22. "For the timber crowd swarming through Congress, that's their reward in this election cycle."

• **Land Sale:** Both the House and Senate reconciliation bills contains provisions that restructure the fee system for ski area operators on Forest Service lands, but the language also called for the possible sale of such lands to permittees. The provisions required the Agriculture Secretary to offer lands for sale to permittees within five years, or at the time their permits expire, whichever comes first. The Senate provision also directed the secretary to sell a minimum of $100,000,000 in ski area lands by the end of fiscal year 2000, but that requirement was reportedly dropped in committee. The possible sale of Forest Service lands deeply concerns administration officials and environmentalists. "It sets a terrible precedent, because up to this point we have not had large tract sales," said one Forest Service employee. "This would be to my knowledge the first time we've ever faced or dealt with the sale of public lands on a large scale basis."
Among the famous ski areas that could be affected by such a provision are Mammoth and Alpine Meadows in California, Sugarbush in Vermont, Attetash in New Hampshire, Telluride and Copper Mountain in Colorado, and Alta and Boreal in Utah. "This is opening a brand new Pandora's box," the official said. "If they do it here, what do they do next?"

Environmentalists fear the provision harbingers a government-wide sell off of public lands. Rep. Jim Hansen earlier this year introduced a bill to transfer Bureau of Land Management (BLM) lands to the states in which they are located. He and a number of Western lawmakers are outspoken advocates of reducing the federal government's land base in the West. But for others, the privatization of public lands means the loss of public access and a squandering of a national heritage. "Allowing ski operators to purchase the most pristine parts of the mountain topography of the West would be an outrage," Babbitt said.

In Montana, a coalition of 10 state sportsmen's groups announced on October 18th a campaign to "save Montana's hunting heritage from the clutches" of Sen. Conrad Burns (R) "and his crazy attempts to sell off our public lands". Burns is co-sponsoring legislation to make each state an "all-or-nothing" offer of all BLM land within its borders. Montana contains more than 8 million acres of BLM land. Ron Moody, president of the Southeastern Montana Sportsmen's Association, said, "These bills serve big business and nobody else. ... It's time for grass-roots hunters and anglers in Montana to rise up and say, 'No way.'" Dick Wadhams, Burns' press secretary, called the campaign a political attack on Burns led by the MT Wildlife Federation, which he says is misrepresenting the issue. Wadhams said Burns would never "endanger" Montanans' enthusiasm for hunting and fishing on public lands. Burns has said even he would not vote for the bill he is co-sponsoring, but "you've got to come up with a radical idea to start a debate".

Although some of the major environmental issues in the budget reconciliation bill lie outside of the Mississippi River Basin, this budget process is setting dangerous precedents for the use and disposal of public lands nationwide, and everyone should be aware of and involved in that debate.

Many Republicans claim a mandate from the public to change the way government works, including the way environmental and natural resource policies are structured. But opponents dispute the notion that the 1994 election was in any way a referendum on the nation's environmental policies. "That's nonsense," Babbitt said. "These issues were not debated in the last election cycle. There are very few candidates in either party who would care to run for Congress saying, 'elect me and I'm going to dismantle the national parks system' ... or 'elect me and I'm going to open the Arctic National Wildlife Refuge.' It wasn't an issue."

The process by which these changes are being made (i.e. through the budget reconciliation bill as opposed to in authorizing legislation) is distasteful to many. "They're doing so much of this without hearings - the public isn't going to find out about this until they read about it or are affected by it," said a Forest Service employee.

Republican leaders rightly claim that when they were in the minority, the Democrats often railroaded policy changes through Congress in budget bills. But it still bears noting that of the many controversial issues discussed above, only one came up for a full House vote - the park system reform or "parks closure" bill - and it is was soundly defeated.

Babbitt and others blame the pervasive interest of industry lobbyists. "This is happening because the moneychangers are in fact swarming through the temples of democracy in the nation' s capitol," he said.

Environmentalists have praised President Clinton for his strong stand on these issues because in so doing "... the president has ordered a halt to Congress's looting of our national heritage," said John Adams, director of the Natural Resources Defense Council. "Congress must now reverse its shameful actions...and correct an unprecedented abuse of the budget process that has benefitted mining, timber, agribusiness, oil and other industries."

But according to Greenwire, Congress may not do anything of the sort. In fact, much of what is now in the budget reconciliation bill will probably remain there as the national attention focuses on higher-ticket items in the budget-like welfare reform and Medicaid cuts. "Our biggest task is to make sure people understand what's going on. We're getting lost in the uproar in Washington," said Karl Gawell of The Wilderness Society. "Resources issues often play well in the constituency who gains some subsidy from them - I mean the cattle industry follows what's going on with grazing much better than the conservation community does. Our biggest fear, when you get into the budget is that we'll get lost in all the noise."

"The rumors that the environmental community is rebounding like it did in the James Watt era is simply wrong. We're spread thinner than I've ever seen us, and I think it's a very deliberate part of our opponents game," Gawell said. "I mean, I've heard from several people on the hill that they're just going to keep piling it on, knowing that we simply can't cover it all, and that they will get some things through no matter how well we perform. I am afraid to say that it's probably true."

"Much is at stake in the next few weeks. Those who stand to reap the benefits of last year's election victory are no doubt savoring the moment. But for environmentalists, the picture is bleak indeed. Many of the policies they have fought so hard for over the past few years are about to be abandoned. Ultimately, the fate of these issues, if not the immediate future of the conservation movement, lies with President Clinton."

Source: Land Letter, SPECIAL REPORT, Vol. 14, No. 2 and Greenwire Vol. 5, No. 120

ESA Issues

The House Resources Committee, on October 12, marked up and passed the Young (R/AK)-Pombo (R/CA) Endangered Species Act (ESA) rewrite. That bill would:

- Make protection of endangered species on private lands voluntary and override the Supreme Court's June 29th ruling in the so-called "Sweet Home" case that prohibited destruction of endangered species habitat on private lands;
- Require the federal government to compensate landowners if their property values are diminished at least 20% by actions required under the ESA. Landowners could force the government to buy property that loses more than half its value;
- Rely more heavily on voluntary protection efforts by states and local governments. Among the provisions intended to assist landowners would be habitat conservation grants, land exchanges, species conservation planning, and technical and financial assistance;
- Create a network of National Biological Diversity Reserves consisting of public lands, with a "proactive" program to increase endangered species populations on them;
- Require more scientific review of listing decisions, and let states take over implementation of the ESA;

- Require a special vote of Congress to protect a species in one region if it thrives elsewhere;
- Limit federal power to ban imports of threatened foreign species legally captured or killed in other counties;
- Open several routes to knock species off the endangered list, even though they have shown no signs of improvement. These changes "could force the Interior Department to defend hundreds of endangered species listings at a time when Congress is cutting the agency's funding;"
- Automatically end protection for several species, including Columbia River salmon, unless Congress votes to grant them a special designation;
- End many protections for sea creatures, including otters, sea lions and turtles. One amendment would increase the likelihood that predator sea lions would be killed if necessary to protect Northwest salmon, making it clear that salmon protection under the ESA takes precedence over sea lion protection under the Marine Mammal Protection Act;

- Exempt shrimpers from federal turtle excluder device (TED) requirements as long as they contribute money to an effective program to save endangered sea turtles. The bill also includes provisions encouraging the U.S. to sign treaties establishing international sea turtle safeguards.

An amendment to the Young-Pombo bill, reportedly designed to

protect wildlife from harm on private lands, also has environmentalists skeptical . The amendment (also passed on October 12th) and pushed by Reps. Jack Metcalf (R/WA) and Jim Longley (R/ME) would prohibit habitat destruction that "proximately and foreseeably kills or physically injures" an endangered species. Jim Waltman of The Wilderness Society said the language would not protect habitat for migratory species.

During the House Resources Committee vote on the bill, committee member Dale Kildee (D/MI) made a "routine – and invariably honored" request for chairman Young's permission to put into the committee record five letters from religious groups. Young reportedly "resisted, saying it depended on which churches wrote the letters" and what the groups had to say, according to "sources" who attended the hearing. The letters were from the Presbyterian Church, American

Hebrew Congregations, the Mennonite Central Committee, the Evangelical Lutheran Church of America and the United Methodist Church's General Board. Young is reported to have "begrudgingly" entered the letters into the official record, including a "particularly nasty one" from the Methodists, which said: "An analysis of the Young/Pombo bill clearly reveals that the primary motive behind this legislation is not to protect God's creation. We believe that the driving force behind this legislation is greed".

The Young-Pombo bill's strong showing in committee does not assure smooth passage on the House floor. House Speaker Gingrich on October 13th said that the bill needs to satisfy moderate Republican concerns and that the bill removes too much protection from endangered species. Moderate GOPers and environmental interests complain that the bill fails to protect habitat and is "too generous" in compensating property owners.

Five committee Democrats supported the Young-Pombo legislation, while three GOPers – Wayne Gilchrest (MD), Jim Saxton (NJ) and Peter Torkildsen (MA) – opposed it. More than 130 lawmakers have circulated a letter criticizing the proposal as "too extreme." A group of about 30 "pro-environment" Republicans has "won a promise" from House Speaker Newt Gingrich to stall a vote on the bill until next year. The delay will give the green GOPers, who "bitterly oppose" it, "time to line up support for a more moderate approach." The delay is "evidence that the leadership is not going to stand by and let the extremists carry the day on environmental policy," said Rep. Jim Saxton (R/NJ), a GOP moderate who has drafted his own ESA rewrite.

Republican congressional aides say Gingrich is deliberately avoiding speaking out on the environment. According to one GOP staffer, Gingrich "has made it clear that he's not going to preside over the dismantling of environmental laws," but that to say so publicly would anger reform-minded Westerners and first-term reps.

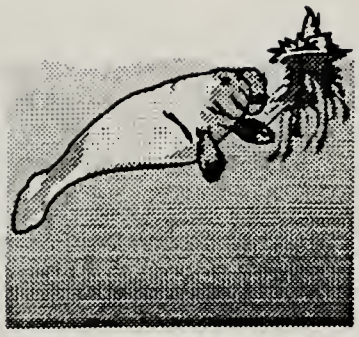
Six doctors on October 16th assailed efforts to scale back the ESA, arguing that weakening the law could allow the extinction of plants and animals that yield medicine to treat cancer and other diseases. At a Boston news conference organized by Physicians for Social Responsibility and the Wilderness Society, the doctors called on patients across the U.S. to write to lawmakers in support of the current ESA. Harvard Medical School's Eric Chivian said, "There is a profound lack of understanding about how human health is affected by the health of other species ... It is time for physicians to speak out".

However, Steve Hansen, spokesman for the House Resources Committee scoffed at the physicians saying, "it was ridiculous to argue that the bill would reduce availability of medicines." And Rep. Bill Brewster (D/OK), a pharmacist, says that liability under the current ESA "hinders the development of new drugs from rare plants and animals".

But others in the public health community also say that proposed Republican plans to cut the budget of the USEPA works against the national goal of reducing health costs. The American Public Health Association has issued an "action alert" to its 32,000 members, urging them to protest the cuts and GOP plans to limit the agency's enforcement powers.

On another front more than 175 state wildlife agencies and conservation groups, including the National Wildlife Federation and the Audubon Society, are pushing for a 5% federal tax on outdoor recreation equipment to benefit wild plants and animals not hunted for sport or protected by the ESA.

The proposal is modeled after a federal tax on ammunition, guns and fishing equipment that provides money to states to buy and manage forests, fields and lakes for hunting and fishing. Backers of the new tax say it would raise $350 million annually for nongame species such as birds, snakes, frogs, chipmunks and other species for which there has been little protection.



The National Fish and Wildlife Foundation says many species, especially migratory songbirds, have declined at an alarming rate over the past few decades and may become ESA candidates. The goal of the tax is to prevent the species from becoming a rarity. "Legislation to impose the new tax is expected to be introduced into Congress next spring." Any bill creating a tax is usually considered a "pariah" in Congress, but "some key congressional members" say they may be willing to endorse this bill.

Source: Greenwire Vol. 5, Nos. 115, 117, 118, and 126; and NOAA Legislative Informer November 1995/Issue #15

New ESA Policy Enhances Native American Participation

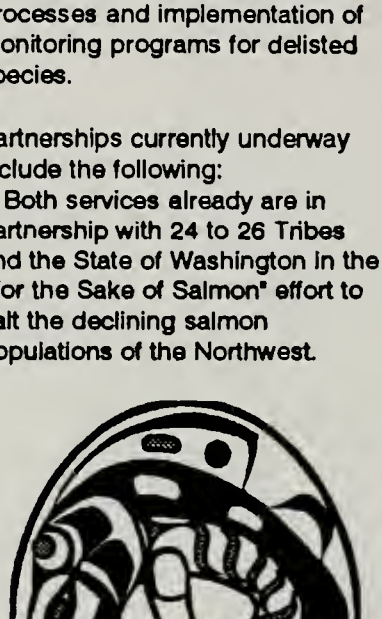
The U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) announced on August 31, 1995 a new joint wildlife management policy designed to enhance the role of Native American Tribal governments in the endangered species program as it effects Tribal lands.

The new joint policy calls for both agencies to:

- Consult with and use the expertise of Native American Tribal governments when determining which species should be listed, conducting surveys on species populations, and implementing conservation measures;
- Provide notification to, use the expertise of, and solicit information from Tribal governments when preparing proposed and final rules to list species; when considering impacts to reserved hunting and fishing rights and trust lands, and when exercising special regulatory authority for threatened species when reserved hunting and fishing rights are involved;
- Allow Tribal governments to participate in all phases of consultation about potential conflicts with endangered or threatened species;
- Use the expertise of Tribal governments in habitat conservation planning; and
- Include Tribal governments in all public aspects of recovery planning processes and implementation of monitoring programs for delisted species.

Partnerships currently underway include the following:

- Both services already are in partnership with 24 to 26 Tribes and the State of Washington in the "For the Sake of Salmon" effort to halt the declining salmon populations of the Northwest.



- In the southern Rocky Mountain area, 12 Tribes, including the Southern Utes (Colorado) and the Jicarilla and Mescalero Apaches (both in New Mexico) are developing fishery management plans for non-native fishes on their reservations.
- The Navajo Nation (Arizona, New Mexico) is developing a habitat conservation plan to cover the Mexican spotted owl and several species that are candidates for ESA protection.
- In the East and Midwest, meetings and training sessions are being sponsored to introduce Tribes to endangered species programs.
- Under cooperative agreements, the Nez Perce Tribe (Idaho) is assisting in management of reintroduced wolves and of grizzly bears in the Bitterroot Wilderness.
- In Montana, the Blackfeet are assisting in conservation and habitat restoration for the bull trout, a candidate species.
- The Lakota Sioux (South Dakota) have requested introduction of blackfooted ferrets as part of their prairie management program, and the FWS is working with the Navajo Nation and the Hualapai Tribe to restore ferrets to Tribal lands in Arizona.

Source: U.S. Fish and Wildlife Service Bulletin August 31, 1995.

Clinton Has Best Enviro-Policy Ideas

According to a recent poll sponsored by the Times Mirror Center for People & the Press, President Clinton is viewed as having better ideas than the Republicans when it comes to protecting the environment.

When asked who has the "best ideas on" environmental policies, 45% of the respondents chose Clinton, 26% selected GOP congressional leaders, and 6% said "neither." Overall, 50% said they disapproved of GOP congressional leaders' policies, while 36% approved.

The telephone survey, conducted for Times Mirror by the Princeton Survey Research Center, interviewed 1,519 adults between Sept. 28 and Oct. 1 and has a margin of error of +/- 3%.

The poll signaled a "rising doubt" about certain Republican priorities

and a public "divided, issue by issue," on whether it trusts Clinton or GOPers more.

Source: Greenwire Vol. 5, No. 111

Flood Control At Any Cost

"The U.S. Army Corps of Engineers (Corps) used inflated property values to justify spending millions of tax dollars to repair agricultural levees damaged by Missouri River flooding", says Rudi Keller of the Columbia, Missouri *Tribune*. Keller wrote a series of articles for the *Columbia Tribune* in mid October describing government response to the 1993 and 1995 floods.

According to Keller's first article, entitled "At Any Cost", the Corps valued:

- An old mobile home used as a hunter's shack at $25,000;
- Dirt paths linking farmers' fields at $100,000/mile;
- A 20 X 40 foot building (worth maybe $30,000 according to the owner) at $125,000; and
- Homes left uninhabitable by the 1993 Flood at $50,000 each - even ones that no longer existed.

Keller said, the Corps "used those estimates to help justify the biggest, most expensive round of levee repairs ever seen along the lower Missouri River." More than $45.7 million has been spent in 110 levee districts after the 1993 flood, and a whole new round of repairs is under way to fix 55 of the same levees damaged during the 1995 floods.

Keller reported that since the *Columbia Tribune's* first inquiries in June, Corps economists have dramatically lowered the values given in some property categories, and eliminated others as justification for levee repairs. Corps officials acknowledged that they didn't examine any homes, roads or other structures before assigning them values in the days following the 1993 flood. The Corps claims that such expedience was necessary because the situation was an emergency and levees needed to be rebuilt quickly.

It should be pointed out that the Corps and all other federal agencies were under tremendous pressure from Congress [(lead by Senator Christopher Bond (R/MO)] to get the levees rebuilt as fast as possible.

But according to Keller, in their zeal, "Corps officials not only used questionable values to justify their work", they also:

- Did not take history into account. As a result, the Corps spent hundreds of thousands of dollars to repair the same levees, some as many as four times in the past 20 years;
- Failed to consider what the land was being used for. Many of the Corps-funded levees are keeping water out of land recently purchased by federal and state agencies for use as wetlands; and
- Precluded on-site property inspections in each levee district.

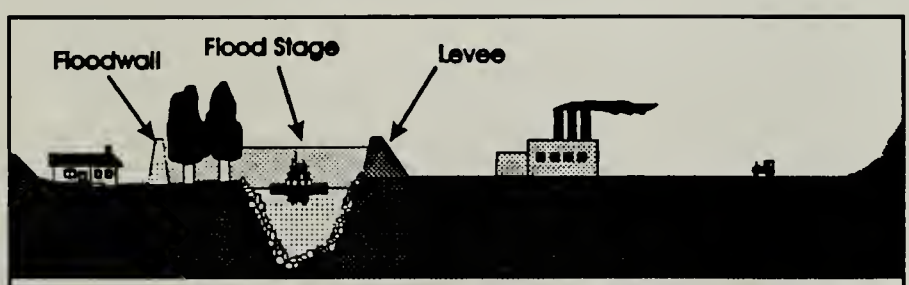
Values were assigned to property and structures based on a list of standard prices developed by the Corps. Once an price was determined for a home in a particular levee district, that value was used for each home in the district, regardless of size or condition. Accordingly, taxpayers paid 80% of the costs for repairing 110 levees along the Missouri River and its tributaries.

To be eligible for federal funds, flood damage prevented by levee repairs must equal at least $1.01 for every taxpayer $1 spent. In other words, the agricultural profits and prevented damage to buildings must be worth more than the cost of repairs.

According to Keller, the *Columbia Tribune* examined economic justifications for 17 repair jobs in central Missouri. Most of those levees protect large tracts of farmland, but only four could be justified based on the value of the agricultural land they protect. So according to the *Tribune*, the Corps "...added its estimate of the value of buildings, roads and other structures that could be inundated in a new round of flooding. In doing so, they didn't take into account the condition of the property after the flood, as long as it had been there before the water rose."

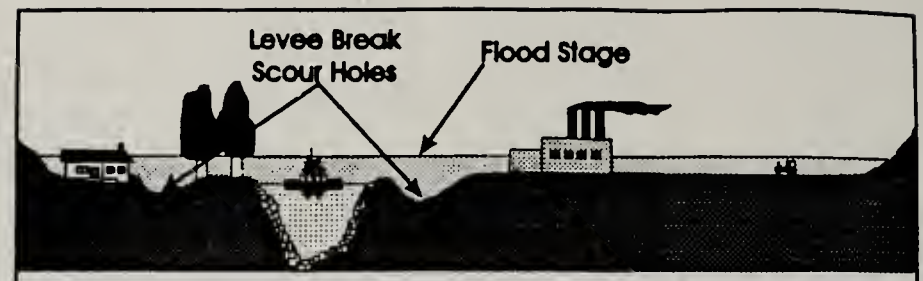
For example, the Corps spent $280,000 repairing a levee that protects homes in Cedar City, Missouri. Almost all of those homes have now been or are being demolished because the flood left them uninhabitable. Before demolition they were purchased with federal funds as part of a government buyout program. Maria Chastain-Brand (Corps sociologist) said her agency didn't consider whether the homes could, or would, be repaired before using them to help justify rebuilding Cedar City's levee.

Levee repairs moved much faster than home buyouts. Prodded by Congress, the Corps surveyed damages in September 1993 and awarded a $280,000 contract



Levees confine flood waters within narrow channels, raising heights of both small and large floods, and giving a false sense of security to floodplain dwellers.

for levee work that December. Repairs were completed by May 1994. The buyout program didn't get under way in earnest for nearly a year.



When levees break property damage is extensive, people's lives are threatened, and disaster assistance can reach into the billions.

This was the third repair job in less than seven years for the Cedar City and Capital View drainage districts. But it was the first time that damage was so severe that protecting farmland alone wouldn't justify repair costs. According to Keller, "Based on the Corps' estimate of agricultural production, the levee repairs would provide just 77 cents of private benefits for every public dollar spent."

That's when the Corps took a look at other property behind the levee. From its files, the Corps decided the levee protects 174 homes, each worth $50,000. The figures for both the number of homes and their value "are really exaggerated," said Melva Fast, Jefferson City's flood buyout administrator. Most homes were worth $20,000 to $30,000 before the flood, and that preflood value is the amount owners received when their homes were purchased, Fast said. "I have purchased all the properties, and I had one appraisal in the $50,000 range," Fast said. Jefferson City officials were strict about the rules for moving back (into the floodplain) - homes that suffered damage beyond 50% of their replacement value had to be torn down or elevated when rebuilt.

George Hanley, chief of public affairs for the Corps' Kansas City district, said the agency also considered the value of a home's contents. "If anything, we figure our figures are probably low based on that broad spectrum," Hanley said.

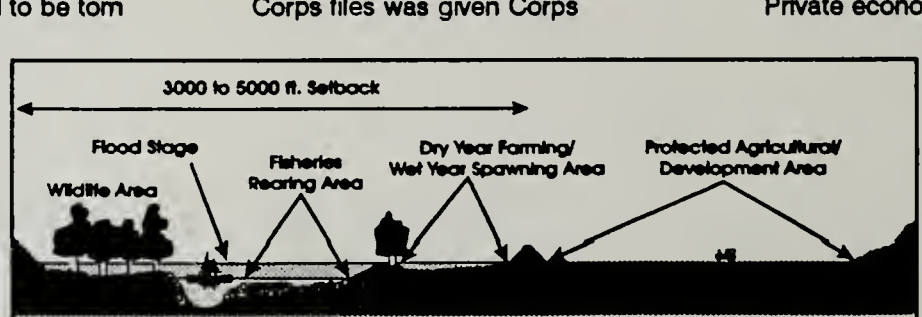
Sharon Lane a Cedar City resident disagrees. According to Keller, "She saw neighbors move out after taking as little as $6,000 for their homes." "Probably two out of five" were worth as much as $50,000 before the flood, counting both the homes and their contents, she said. The Corps' count of 174 homes in the Cedar City area was also about 50 too high, said Fast and Jim Beck, president of the Capital View Drainage District. The Corps' count was based on information compiled from previous floods.

Beck said he has no problems with the Corps' evaluation of his levee district. The bottom line is that he wanted the levee rebuilt. "It is very important for me and the Capital View Drainage District to maintain a working relationship with the Corps," he said. "I am not in a position to question their figures - and won't."

Even after all the property listed in Corps files was given Corps determined values, three central Missouri levees couldn't pass muster. In one Moniteau County levee district, officials took matters into their own hands. Farming is the only business in the Jamestown bottoms of Moniteau County, an area also known as Plowboy Bend. "Or rather", according to Keller, "it was the only business there until...owners of the land, across the river from Easley, became adept at 'farming governments' for cash to put their levees back and, later, additional money to buy their land."

The Corps' original estimated value of property protected by the Plowboy Levee included the mobile home (mentioned earlier), two irrigation systems and 11.4 miles of "local roads", mostly dirt paths used by farmers to get into their fields. According to Keller, "Corps economists gave the mobile home a value of $25,000 (the cost of a new single-wide mobile home), although it was not listed on Moniteau County tax rolls and had only been used as a hunter's cabin." "The 'local roads' were given a value of $1.14 million, or $100,000/mile." Even using those valuations, the benefits did not justify the estimated public expense of $1.48 million.

Private economic benefits only totaled 70 cents/ public dollar spent. Property owners were incensed, believing the Corps' estimates for repair costs were too high, said John Clay, vice president of the levee district. In fact, many of the levees repaired



Setback levees provide for both natural ecosystems and floodplain development. Areas behind setback levees receive enhanced flood protection, while areas between the setback levees provide for multiple use during dry years.

ended up costing less than estimated - several came in at least one-third less than their forecast cost. Nonetheless, those estimates were the benchmark used when deciding whether levees were worth repairing. The levee district challenged the report, Clay said, arguing that the Corps missed a lot of property. Instead of 11.4 miles of those dirt paths, the district reported to the Corps that it used aerial photographs prepared by the USDA to determine there were actually 17.6 miles, increasing the value of the protected property by $620,000. District officials also pointed out a 1.9-mile gravel road, which the Corps valued at $380,000.

According to Keller, "All of the (levee) district's suggested changes were taken by the Corps without question." The additions raised the projected benefits to $1.30 for every $1 spent on repairs. A property added during the second review was Missouri Highland Farm, owned by Mary Hayes. She said nobody asked her the value of the building where she serves customers coming to pick her blueberries, gooseberries and other fruits. According to Keller, "The Corps based its value of $125,000 on it being a 'commercial building with significant equipment investment.'" Hayes said it might be worth one quarter of that amount.

Chastain-Brand, Corps sociologist, said that at the time the 1993 valuations were done, roads didn't have to be on maps - or even repaired to pre-flood conditions - before the Corps included them at full value for the estimate of benefits of future flood protection. "They don't have to be public roads, publicly maintained," she said. "If these are roads that they need to get their crops in and out of the fields, that is a valid investment." When a levee district reported the existence of roads, certain standards were assumed, Chastain-Brand said. "We assume these local roads have a certain amount of gravel on them." But nobody checked whether that is true, she added. "These are supposed to be done very quickly, and they do not have the time and money for detailed analysis and detailed field surveys," Chastain-Brand said.

Clay is quick to point out that the levee district only reported the additional property, Keller said. The Corps decided how to value it, Clay said. According to Keller, "the repairs made in Plowboy Bend after the '93 flood wouldn't have been approved if the more realistic 1995 figures had been used. Dirt paths are no longer given any value, and the estimated value of gravel roads has been lowered from an average of $200,000 per mile to $75,000 per mile." In addition to Plowboy Bend, four other levees would not have been repaired if the new standards were used.

Col. Richard Goring, who oversaw levee reconstruction for the Corps' Kansas City District until he retired in July, said all of the agency's actions - from setting values to rebuilding levees - were done within the framework of the federal law.

Top Corps officials denied that they inflated figures to aid the levee districts. Even though some items were eliminated and the value for others substantially reduced for this year's flooding, Hanley said the repairs done in 1993 remain justified. "Let's face it. These are not as precise as they could be, but they are a reasonably prudent effort."

Homer Lawrence, a regional economist with the Corps, said that as the 1993 repairs progressed, the Corps realized that values were too high for some property behind levees. Homes in some levee districts, for example, were valued at $40,000 instead of the $50,000 applied to houses in Cedar City. Corps economist Holland said that reducing the standard value for roads is an attempt to be more realistic.

Scott Faber, spokesman for American Rivers, said the reduced values used this year bolster his belief that the Corps was eager to justify the 1993 repair jobs because of its cozy relationship with the levee districts. "The Corps views these floodplain farmers as its constituency and refuses to follow the basic laws of economics," Faber said. "I don't want to sound too cynical, "but the Corps is one of the greatest self-perpetuating agencies in history. The Corps is acting in its own economic self interest by looking the other way," Faber said.

In his second article Rudi Keller described how federal agencies pursued conflicting goals after Missouri River floods: "At the same time the Army Corps of Engineers was feverishly rebuilding levees..., several other government agencies were buying up land along the river for conversion into wetlands. The end result was an expenditure of millions of dollars to protect land that ultimately was set aside to allow flooding."

As indicated earlier in the Cedar City area north of Jefferson City, 107 homes and open lots were purchased. State, federal and local governments paid $1.6 million for the buyout. Another $689,000 was spent demolishing the buildings. At the same time, the Corps was repairing the levees that protected those buildings, at a cost of $280,000 - bringing the total taxpayer costs for repairs and buyouts in that area to $2.4 million. Public and private relief agencies spent hundreds of thousands more helping individual flood victims.

In the Jamestown bottoms of Moniteau County, more than $1 million in public money was spent rebuilding the Plowboy Bend levee. By the time floodwaters topped the levee again in May of 1995, most of the landowners had agreed to sell out to the Missouri Department

of Conservation - deals have been made for 2,060 of the 2,800 acres behind the levees.

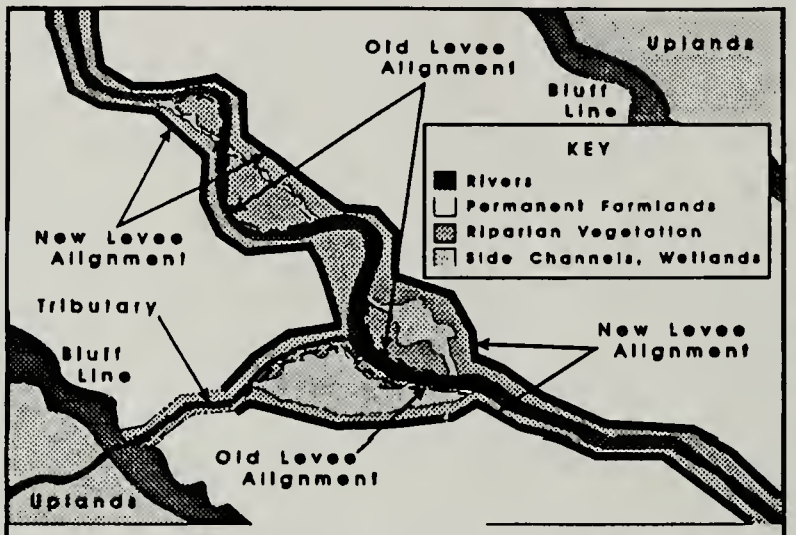
The Corps defends its decision to restore flood protection to areas that wound up in government hands by saying that although they were aware of the conservation department's efforts, Corps officials had no idea whether any deals would be successful, said Marge DeBrot, natural disaster program manager in the Corps' Kansas City office.

Some farmers, including levee association vice president John Clay, is nervous about having the Conservation Department as a neighbor. Now Clay must depend on the state agency as the major landowner in the levee district, to help pay for levee maintenance and possible repairs.

Norm Stucky of the Missouri Department of Conservation said his agency wants Clay's land, but it won't run him out to get it. "Clearly we are now part of that levee district," Stucky said. "We do not own all of Plowboy Bend, and we may never own all of it. But if the situation should ever arise where we would have the opportunity to own Plowboy Bend, our long-term plan would be to open it up and allow it to reconnect with the river."

Flood planners in Jefferson City would also like to see the home sites purchased in the buyout remain open to flooding. But the levee that protects those home sites was repaired by the Corps. Statewide, buyouts of homes cost $40 million, and more than 3,000 homes in flood plains submerged during 1993 were acquired. Officials said this dramatically reduced the cost of damages and extent of human suffering during the 1995 floods. "I think it's saved millions of dollars in this flood alone," said John Miller, Kansas City regional director of the Federal Emergency Management Agency.

President Bill Clinton ordered the Corps and other federal agencies to examine alternatives to traditional flood control policies soon after the 1993 Flood. But in the soggy fields, the push by landowners and Missouri Congressmen to rebuild levees was enormous. Farmers like Clay were clamoring for the Corps to live up to promises of aid, while Missouri politicians at all levels were assuring farmers they would do everything they could to secure federal help. And despite President Clinton's order, a federal law charging the Corps with making flood control decisions directed the Corps to do as the farmers were asking.



Setback levees and acquisition of natural habitat areas (i.e. wetlands, side channels, and open floodplain areas) or "habitat beads" (as shown here) allow flood waters to spread out, thereby reducing flooding and flood heights in protected areas.

Consequently, all the agencies trying to purchase land from farmers still had large pots of money available when floodwaters rose again in 1995:

- The Missouri Conservation Department had spent only $2.4 million of the $10 million it had set aside;
- The U.S. Natural Resources Conservation Service had significant amounts of Emergency Wetlands Reserve funding left; and
- The U.S. Fish & Wildlife Service (FWS) had significant funding left over from their effort to create the Big Muddy National Wildlife and Fish Refuge.

The FWS, however, has successfully purchased 2,000 acres from willing sellers; and other deals are in the works. The FWS had avoided areas where the Corps put levees back in place because it doesn't want land that isn't going to be permanently open to flooding, said J.C. Bryant, Refuge Manager. But because so much land is within levee districts, he said, his agency is now buying land behind levees in the hopes of eventually tearing the levees down. "If we could just create some (habitat) beads along that river, wide places for the river to expand, there would be a tremendous difference in the health of the river and the intensity of high flow events," Bryant said.

Federal wildlife officials acknowledge that it will take many years to meet the goal of assembling 60,000 acres of refuge along the river. In the meantime, Bryant said, agencies must engage in a dialogue to avoid spending money to repair levees as other tax dollars are used to buy land.

Environmentalists have proposed raising the price offered to landowners. By giving them a one-time premium, said Scott Faber of American Rivers, the repeated calls for taxpayer bailouts would end. Faber said farmers and other landowners in river bottoms should be paid the cost of

restoring their land to production, the cost of restoring levee protection and any amount state or federal governments were offering based on fair market value. "The big problem, after the flood was that farmers were not offered a fast or a fair offer," he said. "The key this time is to make farmers an offer that is reasonable - and do it quickly."

In Rudi Keller's third article he discovered what we have been saying all along – "levee system(s) increase the likelihood of flooding".

According to Keller, when floodwaters rose in 1995, long-time Missouri River bottom residents believed they were victims of near-historic amounts of rainfall. "They were wrong", Keller said, "It wasn't simply the amount of rainfall that caused widespread flooding in May. It was also the levees. The very system built to protect land along the river caused water levels to rise faster than at any point in the river's history."

The gauge at Boonville read 33.1 feet on May 19, 4 feet below the record level hit in 1993, but higher than at any other time on record. That fact obscures a more revealing figure - the amount of water in the river on May 19 wasn't anywhere near a record. In fact, that same amount of water could be expected every 10 years. What was unusual was how high the water rose.

Before 1993, the record for flooding at Boonville came in 1951, when the volume of water coursing down the Big Muddy was 550,000 cfs. It took far less water - 371,000 cfs - to push the river above 33 feet in 1995.

"Since 1934", Keller said, "the river has run over its banks many more times than in prior years, a total of 45 times. That time period coincided with the Corps' most ambitious efforts to control the river and the construction of numerous private levees."

Tom Harris, a hydrologic technician with the U.S. Geological Survey, said the Corps has done so much channeling of the river that it has changed the waterway's profile. As a result, Harris said, a flow that wouldn't have caused flooding when the agency started measuring river levels in 1925 now pushes the river far above flood stage. Since U.S. acquisition of Missouri, the flow of a 100-year flood has been exceeded only twice - in 1844, when the river peaked at 710,000 cfs, and 1993, when the peak hit 755,000 cfs. The highest gauge reading in 1844 was 32.7 feet. In 1993, the gauge read 37.1 feet.

The change (in river elevation) during 10-year floods is more dramatic. In 1927, a flood of nearly equal flow to May's flood measured 23.9 feet on the Booneville gauge, compared to the 33.1 feet hit in 1995.

"Years of tradition are hard to break", Keller says. "But the 1993 Flood destroyed many things, and one of them might have been the Corps' view of levees and other flood-control devices. Scientists for the Corps now believe the practice of building up levees is fundamentally flawed."

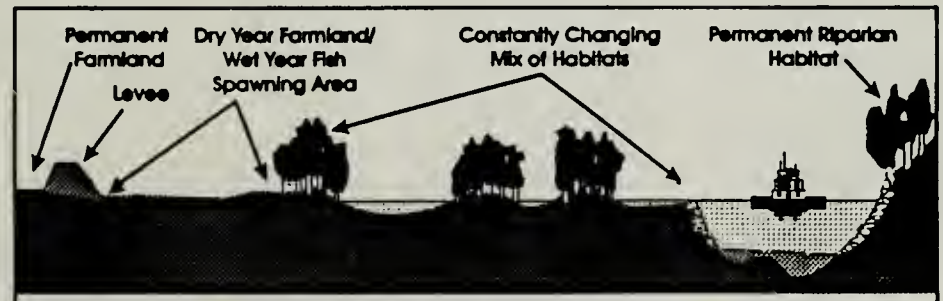
They agreed with the Fish and Wildlife Service in their recent report (issued in June) that leaving some levees unrepaired and creating flood plain habitat areas or wildlife refuges would make flooding less severe by giving the water natural areas in which to spread out. Corps' researchers based that conclusion on a detailed, computerized study conducted on the effects of levees along the Missouri and Mississippi rivers. They concluded that levees built as high as the water rose wouldn't have been sufficient, because the existence of the levees themselves would have pushed the water higher still.

Along the Missouri, raising the levees would have increased flood heights an average of 3 to 4 feet and up to 6.9 feet at Waverly, one of the widest and lowest spots on the river between Kansas City and St. Louis. If those levees were removed altogether, the floodwaters would have been as much as 3 feet lower.

The study is significant because it will serve as the Corps' factual justification for making future flood-control decisions, said Dave Loss, who managed the study from the Corps' office in St. Paul, MN.

Scott Faber, spokesman for American Rivers, said the Corps study settles the debate about the viability of levees as flood-control devices. "The agency that has made its bread and butter on levees for two centuries is now saying that building more levees is the wrong thing to do," Faber said. "You can't ask for a more convincing repudiation than the Corps saying levees are wrong and flood-plain management is right."

A Missouri state task force on



Lands between setback levees which lie within "habitat beads" provide a diversity of habitats and the opportunity for crop production during dry, low water years.

flood response convened by Gov. Mel Carnahan in the wake of the '93 flood agreed, "The aggregate result (of levees) appears to actually increase the flood danger by increasing the height and velocity of the river flow during floods."

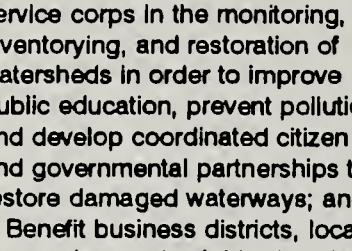
The task force recommended that the state do a better job of coordinating flood plain management to mitigate the costly cycle of flood relief. In the short term, it suggested that farming levees not be rebuilt any higher than pre-flood heights. Without such guidelines, the result would be "levee wars," in which each community builds a higher levee to ensure river water flows elsewhere, the task force report said.

Keller's articles summarize the situation surrounding flooding very well - and not just in Missouri. The levee districts, some Congressmen, and the Corps wanted the levees repaired so badly that in doing so they were willing for the public to incur **"ANY COST"**. This, despite the fact that other programs were available to give floodplain farmers relief, and in the face of growing evidence that levees only exacerbate flooding problems. All of this occurred at the same time that Congress is cutting environmental and social programs at the national level, and even shutting down the government, to supposedly balance the federal budget!

Source: Columbia Daily Tribune, Columbia, MO 10-15,16, and 17-95

Waterways Reatoration Act of 1995

H. R. 1331 introduced by Rep. Elizabeth Furse (R/OR) would declare it in the national interest to:
- Protect and restore the chemical, biological, and physical components of waterways and associated ecological systems such that their biological and physical structures, diversity, functions, and dynamics are restored;
- Replace deteriorating stormwater structural infrastructures and physical waterway alterations that are ecologically damaging with cost effective, low maintenance, and ecologically sensitive projects;
- Promote the use of nonstructural means to manage and convey streamflow, stormwater, and flood waters;
- Increase the involvement of the public and youth conservation and service corps in the monitoring, inventorying, and restoration of watersheds in order to improve public education, prevent pollution, and develop coordinated citizen and governmental partnerships to restore damaged waterways; and
- Benefit business districts, local economies, and neighborhoods through the restoration of waterways and the development of multiuse greenway corridors.



The Secretary of Agriculture, acting through the Chief of the Natural Resources Conservation Service, would establish and implement a Waterways Restoration Program, providing technical assistance and grants, on a competitive basis, to eligible entities to carry out waterway restoration projects. Eligible projects would achieve ecological restoration or protection and one or more of the following objectives: flood damage reduction, erosion control, stormwater management, and water quality enhancement. Projects could be carried out on Federal, State or private lands where the State or the private land owner is a sponsor or cosponsor.

Eligible projects would include any of the following:
- Restoration and monitoring of degraded waterways, including revegetation, restoration of biological communities, and changes in land management practices;
- Restoration or establishment of wetland and riparian environments as part of a multiobjective stormwater management system in which the restored or established areas provide stormwater storage, detention, and retention; nutrient filtering; wildlife habitat; and increased biological diversity.
- Reduction of runoff;
- Stream bank restoration using the principles of biotechnical slope stabilization;
- Establishment and acquisition of multiobjective floodplain riparian and adjacent floodprone lands, including greenways, for sediment storage, floodwater storage and conveyance, wildlife habitat, and recreation;
- Removal of culverts and storm drains to reestablish natural ecological conditions and reduce flood damages;
- Organization of local watershed councils in conjunction with the implementation of on-the-ground action education or restoration projects;
- Training of participants, including youth conservation and service corps program participants, in restoration techniques in conjunction with the implementation of on-the-ground action education or restoration projects;
- Development of waterway restoration or watershed plans which are intended for use within the grant agreement period to implement specific restoration projects;
- Restoration of any stream channel to reestablish a meandering, bankfull flow channel, riparian vegetation, and floodplain in order to restore the functions

and dynamics of a natural stream system to a previously channelized waterway; or to convey larger flood flows as an alternative to a channelization project;
- Release of reservoir flows to restore riparian and instream habitat;
- Watershed or wetland projects that have undergone planning pursuant to other Federal, State, tribal, or local programs and laws and have received necessary environmental review and permits;
- Early action projects which a watershed council wants to implement prior to the completion of its required final consensus watershed plan, if the project is determined to meet the council's watershed management objectives and is useful in fostering citizen involvement in the planning process.

Projects involving channelization, stream bank stabilization using methods other than biotechnical slope protection methods, construction of reservoirs, or structures would not be eligible for assistance unless necessary for reestablishment of the structure, function, and diversity of native ecosystems.

This bill currently has over 50 cosponsors, and shows great promise for restoration of streams and waterways across the country. For additional information interested persons should contact Congresswoman Furse's office at 316 Cannon Building, Washington, D.C. 20515, or at (202) 225-0855.

Groundwater Nitrate Removal In Riparian Buffer Zones

A recent New England study evaluated the potential of riparian buffer zones in removing groundwater nitrate, and attempted to identify the plant and microbial processes responsible for nitrate removal in riparian buffers. Investigators introduced solutions enriched with nitrate and a bromide tracer to groundwater through dosing wells in different soil types within a riparian forest in Rhode Island.

Dosing wells were located at different groundwater depths in soils differing by drainage class (moderately well drained; somewhat poorly drained; and poorly drained). Each doser was surrounded by a nest of downgradient monitoring wells. Investigators quantified groundwater nitrate removal by coupling observations on the changes in the nitrate-tracer ratio with hydrologic factors at each dosing site.

Decreases in the concentration of the tracer were attributed to mixing, dispersion, and diffusion-assuming that these physical processes acted to reduce nitrate concentrations by the same amount. Decreases in nitrate concentrations in excess of the tracer were attributed to biological processes and collectively termed "removal." Detailed measurements of plant root and microbial biomass and activity were made in close coordination with the groundwater studies to determine what processes contributed to observed nitrate attenuation.

Investigators observed significant spatial and temporal variation in the site's physical and chemical parameters and in nitrate removal rates over a distance of 60 feet between the driest and wettest locations within the riparian zone. Groundwater in the drier locations was strongly aerobic and well below the biologically active A and B soil horizons. In contrast, groundwater in the wettest location was generally within the upper 20 inches of the soil surface and had low dissolved oxygen levels.

High groundwater nitrate removal rates were observed in the hydric location where soil is saturated for long periods of time and is anaerobic. Mean nitrate removal rates in poorly drained shallow groundwater were 70% higher than in the shallow groundwater of drier locations.

The spatial variation in nitrate removal rates suggests that using riparian zones dominated by upland or transitional soils to prevent nitrate movement from agricultural areas into streams may be less effective than using sites dominated by wetter, hydric soils. The scale of the spatial variation presents challenges for widespread adoption of soil drainage classes into practical management guidelines for riparian forests.

The study site, as is typical of many riparian areas in southern New England, had very finely divided soil drainage classes (separated by approximately 30 feet) with distinct nitrate removal capacities. However, the resolution of standard soil maps and groundwater maps often used in geographic information systems developed for land management is too coarse to incorporate the observed differences. It may be necessary to develop high resolution, large-scale soil and groundwater maps to optimize the use of riparian areas for nitrate removal in agricultural watersheds.

Temporal patterns of nitrate removal in this study were complex. Removal rates did not increase significantly from March into June despite a groundwater temperature increase of more than 15 °F. But removal rates in November were more than double those in June, even though groundwater temperatures were lower in November. The fact that the highest removal rates were observed in the dormant season suggests that immobilization and denitrification processes, rather than plants, were responsible for much of the observed groundwater nitrate removal.

Laboratory microcosm studies confirmed that denitrification was the major microbial process

involved in the removal of nitrate in the groundwater of the riparian zone. Carbon availability was found to control denitrification. Qualitative measurements within the saturated zone of the riparian soils suggests that the hydric soils have a greater incidence of high-carbon media than the drier locations.

For further information contact A. J. Gold or P. M. Groffman, University of Rhode Island, 336 Woodward Hall, Kingston, RI 02881, (401) 792-2903 or FAX (401) 792-4561.

Source: Nonpoint Source News-Notes, October/November 1995, Issue #43,

A Citizen's Riparian Area Management Guide

The Lake County (Illinois) Stormwater Management Commission used a 319 grant to develop a citizen's guide for riparian area management. The guide covers water quality, riparian habitat, flooding, property value, and safety issues. It educates riparian homeowners on the causes and impacts of soil erosion, water quality degradation, and the importance of using BMPs for watershed management. In six sections it identifies the principles of riparian management:

- *More Is Not Better* addresses nutrient impacts from the misapplication of lawn fertilizer and provides proper application methods;
- *No Dumping Allowed* details nutrient impacts of yard waste and supports composting;
- *Excess Debris Spells Disaster* discusses the environmental and safety implications of "urban artifacts," such as the tires and natural debris that travel in stream channels;
- *Plant Yourself Some Roots* focuses on the benefits of establishing rooted streambank cover to prevent erosion; buffer strips to filter pollutants, and tiles, storm sewer outlets, and other concentrated flow outlets to manage runoff;
- *Short Grass Doesn't Cut It* explains the negative impact of short grass on pollutant filtering ability, wildlife habitat, and weed and drought resistance; and
- *Tune Into Your Channels* highlights the benefits of natural, meandering channels in comparison to straightened channels and advocates vegetative structures to stabilize streambanks and shorelines.

Other sections discuss how to properly install bank stabilization measures and the advantages of native plants. The six principles are applicable across much of the United States. To date, the Commission has distributed nearly 5,000 copies of the citizen's guide.

Free copies of *Riparian Area Management: A Citizen 's Guide*, can be obtained from the Lake County Stormwater Management Commission, 333-B Peterson Road, Libertyville, IL 60048, (708) 918-5260.

Source: Nonpoint Source News-Notes, October/November 1995, Issue #43

TVA Shoreline Management Partnership Initiative

Customer focus is a key management issue in the Tennessee Valley Authority's (TVA's) award-winning Shoreline Management Initiative. The Initiative, beginning a little over a year ago, considers alternative shoreline management scenarios and examines the economic and environmental impacts of residential shoreline development. Alternatives being examined compare the effects of buffers and unobtrusive development along the waterfront with more intensive development, such as retaining walls, lawns down to the water, and large docks along the waterfront. The initiative addresses the effect of development on vegetation, wildlife, water quality, wetlands, cultural resources, aquatic habitat, scenic beauty, and public recreation opportunities. The ultimate objective is to establish a policy and decision-making framework that will define a long-range shoreline development strategy.

Before the project began, TVA and Auburn University asked Gallup to conduct a survey to get a concrete sense of what citizens want TVA to accomplish - 31% of those polled believe that TVA places top priority on the environment in the conduct of its public land stewardship, but 61% want to see a higher priority placed on the environment.

Some 13% of TVA shorelines are now developed for residential use; about 5% have been developed for commercial, industrial, and public facilities; and about 10% are in a protected class as wildlife refuges or as TVA designated habitat protection areas. Another 71% of the shoreline is undeveloped, presenting a broad range of opportunities. The Initiative is studying the cumulative effects of various development scenarios - the effect, for example, of developing another 25%, 50%, or 70% of the shoreline. Then, taking these projections separately, TVA can set development targets to ensure that a reasonable blend of developed and undeveloped shoreline area is maintained.

Tere McDonough, Project Manager, said the need for the Initiative became apparent when a developer applied for permits for several lots. He wanted a permit to dredge along the waterfront, to put riprap along the entire shoreline, and to build docks in front of each lot. When TVA managers looked at the site, McDonough said, they discovered that dredging wasn't needed, and that the properties were not eroding. A good stand of vegetation was flourishing along the shoreline and if left intact, no erosion problem would arise and riprap would not be needed. "TVA

was able to show the developer some ways to save big money."

TVA managers also looked at the potential visual effect of placing individual docks along the shoreline, and found that if the docks were nestled in embayments, the whole development would be much more appealing. The agency also identified wetlands - some on TVA land, some on private property - and was able to negotiate with the developer to protect those areas. This project became the turning point, and TVA saw that success was possible through negotiation and different approaches.

TVA's Shoreline Management Initiative has now moved beyond looking at individual lot-by-lot impacts to considering the cumulative environmental effects of overall shoreline development. TVA talked with over 1,200 people at a series of 13 public meetings and set up an 800-toll free information line to accept comments. The meetings generated some 7,800 comments from over 200 people. TVA received a good sense of what people considered valuable and important - the public is keenly interested in protecting the scenic beauty of the lakes, and water quality was foremost on everyone's mind.

Property owners also wanted to maintain their access rights to the waters, and their right to have facilities along the waterfront. By the same token, many property owners think that TVA needs more comprehensive standards for shoreline development because such standards will help protect their investments and property.

Participants also asked for education about how to better care for the shoreline environment. In response, TVA is considering developing an environmental handbook for property owners. TVA is also assessing shoreline erosion conditions and attempting to characterize the shores as either mildly, moderately, severely, or critically eroded. This information can then be used to develop treatment plans for erosion control that move away from hard engineering approaches into bioengineering and vegetative treatment. It may be possible to develop a shoreline categorization system that will show the agency how such things as steepness of slope and erodibility of soils can be factored into development decisions to help protect sensitive areas.

TVA has historically taken a hands-off approach to funding erosion controls, but it is now exploring the use of cost-sharing incentives to encourage alternatives to riprap and retaining

"Help Save Our Shorelines"

walls - and perhaps also for the establishment of buffers in areas where TVA doesn't own the property. In addition, TVA is considering partnerships to acquire conservation easements. The agency is working cooperatively with farmers to put agricultural buffers along reservoirs and streams in the watershed, and with marina owners to install boat pump-out systems that will reduce the volume of waste entering the water from boats.

One thing we've learned," says McDonough, "is that the customer focus pays off." Communications and education comprise a major element in solving nonpoint source pollution problems. Water quality problems are many and involve a range of ecosystems, but two things are certain. Science and public policy are not sufficient without the involvement of local communities and the participation of the businesses and residents who make their homes in the watershed. "You can't set policy in Washington, D.C., or in TVA's corporate towers and expect it to be implemented. You've got to get local people involved to hammer away at these problems."

The other lesson is that quick short-term fixes are not the solution. Science, public policy, and the participation of all stakeholders is needed if we really want to make changes over the long haul. That is the perspective of the Shoreline Management Initiative, and it has been quite successful.

Contact: Tere McDonough, Land Policy Specialist, Reservoir Land Management, Tennessee Valley Authority, 17 Ridgeway Road, Norris, TN 37828, (615) 632-1542 or FAX (615) 632- 1534.

Source: Nonpoint Source News-Notes, October/November 1995, Issue #43

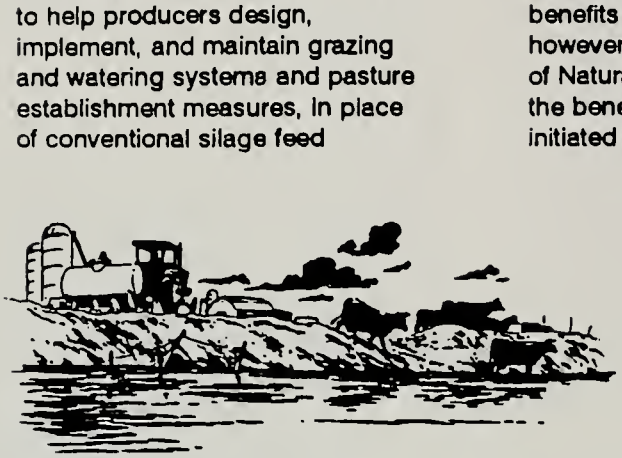
Missouri Forage and Grazing Management Project

Southcentral and southwest Missouri support the highest concentration of beef and dairy cattle in the state as well as five recreational lakes and several scenic rivers. This potentially uneasy mix of land uses works largely because a successful grazing demonstration project helps protect recreational waters while increasing the profitability of forage and livestock enterprises.

A 10-member committee representing farmers, ranchers, the agriculture industry, Soil and Water Conservation Districts, Cooperative Extension, and Natural Resources Conservation Service (NRCS)

directed the project. Two Resource Conservation and Development councils, the Missouri Department of Natural Resources, the NRCS, and a U.S. EPA 205(1)(5) grant funded a grasslands specialist to implement the project.

The Demonstration Project was conducted from mid-1992 to 1995 to help producers design, implement, and maintain grazing and watering systems and pasture establishment measures, in place of conventional silage feed



production and feed lots. In the recommended rotational grazing system, livestock were allowed to graze a section of pasture for one to three days before moving on to the next section. Each section rested 20 to 40 days between grazings.

This grazing system reduced erosion, limited livestock impacts on streams, and provided higher quality diets for improved livestock performance. Mark Kennedy, the project's grassland specialist explains, "From an animal standpoint, management intensive grazing ensures that plants are in a high state of nutrition when livestock graze. From a plant standpoint, it provides respite, and from an environmental standpoint, it more evenly distributes manure over the grazing area. It ties the animal needs to the plant needs."

The farms ranged in size from 40 to 4,000 acres. Kennedy tested soils on the farms, and helped producers maintain satisfactory plant fertility levels through nutrient recycling (i.e. from improved manure distribution). This step also eliminated the need for supplemental fertilizer. In addition, grazing livestock "harvested" weeds such as ragweed and lambs quarters, eliminating the need for herbicides.

Farmers implementing the grazing systems under the pilot project did not receive cost-share - they were attracted instead by the cash-flow benefits of the system. In 1994, however, the Missouri Department of Natural Resources recognized the benefits of grazing systems and initiated a pilot cost-share program for three counties. This year, the cost-share program was extended to nine counties, and it is scheduled to go statewide in 1996. The project has revealed a high rate of return for demonstration farm producers:

- Over a 290-day period, one operation using rotational grazing produced 733.38 lbs. of beef/acre and 1.02 T of hay/acre compared to conventional yields of 150 to 350 lbs. of beef/acre. Additionally, plant fertility levels remained high without commercial fertilizer or herbicide for five years.
- At a dairy operation, income over feed cost increased from a low of $3.31/hundred weight (cwt) of livestock using a conventional feeding system to a high of $5.61/cwt using a grazing system - a 59% increase in income. The cost of the water and fencing used in the grazing system was $61/acre, or $3,908; however, the cost-saving in feed was $234/cow for a herd of 55 cows, or $12,870. The dairy farmer also reported that the grazing system was less labor intensive than conventional systems, greatly reducing the time demanded for harvesting forage and managing manure.

Kennedy reports that rotational grazing systems limit livestock access to streams to short periods of time, improving stream bank conditions in comparison to those in pastures grazed full-time. "Although even limited access is not ultimately desirable for the stream, it is preferable to perpetual access, and limits the intrusion of nonforage plant species into the grazing system," Kennedy explains. A water quality monitoring project on the Upper Niangua River is monitoring the impacts of no stream access, limited-access, and full-access grazing systems.

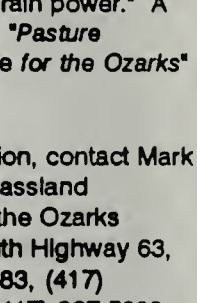
The demonstration project offers convincing evidence that changing livestock systems to reduce inputs in favor of increased management results in positive water quality and cost benefits - a change that Kennedy says, "replaces horsepower with brain power." A document entitled, "*Pasture Management Guide for the Ozarks*" is available.

For more information, contact Mark Kennedy, State Grassland Specialist, Top of the Ozarks RC&D, 1437A South Highway 63, Houston, MO 65483, (417) 967-4188 or FAX (417) 967-5283.

Source: Nonpoint Source News-Notes, October/November 1995, Issue #43

Eco-Friendly Farming

The Energy (DOE) and Agriculture (USDA) departments are joining efforts to improve farming techniques and reduce farmers' use of fossil fuels and pesticides. Under the joint five-year agreement, the departments' will explore ways to maximize crop yield, produce new products and improve food quality and safety.



The program will combine the DOE's "advanced computation and remote sensors" with the USDA's expertise in plant breeding,

biological pest control, and soil and water conservation, to help create "more sustainable" solutions to agriculture's current use of fossil fuels and chemicals.

Industry will be "encouraged" to participate in the program, "so new technology can be commercialized to create jobs and rural development." Future projects may include developing precision farming systems, improving technologies for previously untilled soil and pathogen detection.

Source: Greenwire Vol. 5, No. 132

States' Rights Meeting

Some 300 state officials gathered in Cincinnati in October for the three-day "States' Federalism Summit" and agreed on what Utah Gov. Mike Leavitt (R) called a "states' agenda" designed to give states more power to challenge federal laws and regulations. Such a change would signal a "new high-water mark" of state power, possibly threatening the feds' ability to impose, among other things, "broad" environmental regulations.

The officials, including seven governors, recommended:
- A new "federalism act" giving states a voice in the legislative process;
- A Constitutional amendment giving states the power to force Congress to reconsider laws or regulations that states find onerous;
- A mechanism allowing states to propose constitutional amendments; and
- limits on Congress' ability to issue mandates on states.

Source: Greenwire Vol. 5, No. 123

Property Rights Driven by Industry

The Western property-rights movement is driven by interests from mining, timber, real estate and other industries that contribute to key congressional committee members, according to a study released last week by the Washington-based Center for Responsive Politics.

While the property-rights movement "conjures" up images of "financially strapped landowners" fighting an "oppressive federal bureaucracy," the study "paints a different picture." The center found that Senate Judiciary Committee members from 1989 to 1994 received an average of $95,722 from political action committees (PACs) supporting "takings" legislation that would compensate landowners when federal actions reduce the value of their land. Sens. Mike DeWine (R/OH) and Hank Brown (R/CO) received the most money from the PACs, $276,666 and $201,712 respectively.

The nonpartisan center, which tracks ties between money and politics, defines property-rights PACs as those representing mining, grazing, timber, real estate developers, water interests and farm bureaus.

In Nye County, NV, the county is suing the federal government for control over public lands, and has been given $40,000 in former federal funds by Nevada's grazing boards to help with its suit. The money originates from grazing fees collected by the Bureau of Land Management, a portion of which are returned to the boards. According to state law, the money can be used for any "purpose beneficial to stock raising and ranching industries." Edward Presley, Nye County research specialist, said he is going to all grazing boards to ask for similar help. In some states, the fees are rerouted into local education.

The Sierra Club's Rose Strickland rejects the idea that fees are not federal funds: "Unless they're claiming that the federal forage is free, the grazing fees they paid were for actual product that the cows consumed."

Source: Greenwire Vol. 5, Nos. 106, 123

Harassment Suit Against Miner

In a "first-of-a-kind action," Public Employees for Environmental Responsibility (PEER) have filed suit against Catron County, NM mine operator Richard Manning for harassment and malicious prosecution of two government officials. Catron County is considered the birthplace of the "County Supremacy" movement which challenges the legitimacy of federal land ownership.

The PEER suit stems from charges brought by Manning, a "property rights activist," against U.S. Forest Service Inspector Thomas Dwyer and the New Mexico Environment Department's Robert Salter for conducting a required water inspection on federal land Manning claims to own. After months of legal action, New Mexico courts dismissed Manning's case; his appeals were denied.

PEER claims that "across the west, 'wise use' bullies have declared war on state and federal resource managers who simply are doing their jobs, wrongly assuming they are unable to fight back." PEER General Counsel Jeffrey Ruch said, "Our lawsuit will demonstrate that those who harass public employees will have to pay a heavy price for their illegal acts." PEER has cited more than two dozen cases in which agency environmental staffers have been subjected to threats, intimidation or assaults. The suit asks for compensatory and punitive damages.

Source: Greenwire Vol. 5, No. 117

Yellowstone Mine Update

A federal judge on October 13th "dealt a blow to Canadian mining giant Noranda Inc.'s controversial effort to open a gold mine adjacent to Yellowstone National Park," ruling that the company is responsible for cleaning water pollution already at the site.

U.S. District Court Judge Jack Shanstrom ruled that under the federal Clean Water Act, Noranda affiliate Crown Butte Mines Inc. must obtain permits and clean up pollution caused by mining in the 19th century at the proposed New World Mine site. That process could take "many months, if not years."

The ruling came in a suit brought by environmentalists to block the New World Mine, which is located in drainages that flow into Yellowstone National Park. Environmentalists fear that toxic runoff from the mine could poison rivers and damage wildlife in Yellowstone. A Crown Butte spokeswoman declined to comment, saying the company hadn't yet reviewed the ruling.

Source: Greenwire Vol. 5, No. 116

Iowa Hog Lot Studies

Iowa legislative leaders agreed on October 10 to spend "millions of dollars" on research directed at solving the environmental and odor problems caused by large-scale hog facilities. House Speaker Ron Corbett (R) said he is confident the appropriation, which could total more than $9 million over the next three years, will be approved by the legislature.

The study, to be conducted by Iowa State University, would research ways to control hog odor, safeguard lakes and streams and ensure the competitiveness of small farmers. Lawmakers will appoint a working committee to draft final details of the bill, which would require large hog confinements to be located a minimum distance from public areas and mandate that producers file information on how they dispose of manure.

"Because of the spills this summer, I think more of the general public is concerned with the potential problems", Corbett said.

Source: Greenwire Vol. 5, No. 114

North Carolina and China Crackdown on Polluters

The FBI and North Carolina prosecutors on October 3rd "unveiled" a task force of federal and state enforcement bodies that will target intentional polluters for criminal prosecutions. Task-force members "say their goal is serious jail time for violators." In the past, prosecutors emphasized fines and civil penalties. The task force will rely partially on concerned citizens for tips about criminal polluters.

"Intentional Polluter"

Task-force members include the FBI; the USEPA; the US Attorney's Office; the State Bureau of Investigation; the state attorney general; and the state Department of Environment, Health and Natural Resources.

Meanwhile, in China the government plans to make some environmental crimes punishable by death. National Environmental Protection Agency Director General Xie Zhenhua said, "Those [industrial] units or individuals who cause serious pollution will be sentenced to imprisonment or even death."

The charge of "jeopardizing the environment" will soon be incorporated into China's criminal law, and China is also drafting new regulations on nuclear pollution, he said. China recently enacted a law to ban waste imports and regulate domestic waste treatment starting in April 1996. "Poorly funded environmental protection offices are battling to halt a barrage of pollution from heavy industry and also from millions of private and collective rural enterprises that have sprung up as a result of economic reform."

Source: Greenwire Vol. 5, No. 111

Platte River Water Plan

Officials from Nebraska, Colorado and Wyoming have unveiled a plan to divide North Platte River water among all users. The plan, reached in November, "a breakthrough in the states' efforts to resolve a decades-old water controversy," calls for each state to voluntarily contribute water, money and land to meet the needs of endangered birds and other wildlife.

Nebraska would set aside an "environmental account" of 60,000-100,000 acre-feet of water a year to be released as needed from Lake McConaughy. Wyoming would postpone its proposed Deer Creek Dam and raise water levels at Pathfinder Dam to store an extra 54,000 acre-feet of water. Colorado would recharge groundwater which would return to the river during the summer.

Each state would also contribute the equivalent of $6 million in water projects and cash toward the needs of Platte River endangered species over the next six years. The three states have at stake the renewal of federal licenses for hundreds of small water projects in CO, the North Platte River reservoirs in WY, and the Kingsley Dam in NE.

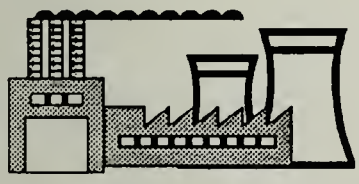
But one of the "trickiest issues" to resolve is tri-state consensus on a "fair share" for each state to contribute toward meeting federal habitat goals. The states have proposed that each contribute water, money and land, but specific sums, water quantities and land shares from each state are still under discussion. Negotiations may go through December, with the final proposal subject to federal approval

Nebraska Gov. Ben Nelson's (D) aide Bill Head says all Nebraska water users – farmers, irrigators, environmental interests and recreationists – "seem to feel a sense of optimism they haven't shared before".

Source: Greenwire Vol. 5, Nos. 131 and 145

Watts Bar Pollution/Agreement

The Department of Energy (DOE), USEPA and Tennessee Department of Environment and Conservation recently formalized plans for reducing pollution risks in the lower part of Watts Bar Lake (Tennessee River) near the Oak Ridge Superfund site.



"Concerns have been raised" about potential health effects because of decades of discharges from the DOE's nuclear facilities upstream in Oak Ridge, but DOE studies recommend that the pollutants be left at the bottom of the lake.

The "Record of Decision" signed by the DOE and environmental regulators completes the study phase of the Superfund process. It calls for continued monitoring of Watts Bar Lake, dredging limitations to avoid deep-lying pockets of pollution, and public advisories on fish consumption because of PCB contamination. In five years, regulators will reassess current restrictions and determine their sufficiency in protecting human health.

At the same time, after a 23-year struggle, the Nuclear Regulatory Commission on November 9th approved a low-power permit for the $6.8 billion Watts Bar nuclear reactor. Watts Bar is the last commercial nuclear power plant still being built in the U.S. Many local residents remain concerned about the Tennessee Valley Authority's (TVA's) 1,270-megawatt power plant, which has been "plagued with stops and starts, controversy over design flaws, faulty construction, hundreds of worker complaints, shoddy government oversight and years of mistrust that still lingers."

TVA officials say those problems have been resolved and that the first of 193 uranium fuel bundles were loaded into the reactor core in early November. The plant can only run at 5% capacity under the current license.

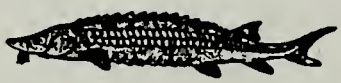
Source: Greenwire Vol. 5, No. 132 and 136

St. Lawrence River Sturgeon Habitat Use

Gravel laid down to protect an intake pipe from zebra mussels attracted approximately 30 spawning lake sturgeon in 1994. In 1995, researchers from the National Biological Service (NBS) and the New York Department of Environmental Conservation (NYDEC), Watertown collected habitat information at the site and also recorded the spawing activity with a video camera. The camera footage shows 8 wild sturgeon displaying spawning activity, redhorse suckers (and lake sturgeon) feeding on eggs, lake sturgeon eggs and fry mixed among the gravel substrate, and lampreys attached to lake sturgeon (as many as 10 on one fish).

"larval sturgeon"

Habitat parameters were reported to be as follows: size - 30 X 30 yds.^{3}; depth - 13.5 ft.; velocity 6 in. above the bottom was 0.5 m/s; substrate size - #2 gravel; and substrate depth - 1.5 ft. Water velocity at the site is believed to be faster than the surrounding area upstream of the Moses-Saunders Power Dam. This, in addition to clean gravel, may be why the lake sturgeon homed in on it so fast. Prime time for spawning was a 2-3 day period (June 7-9) at 58-59 °F. At 60 °F, on June 16, no sturgeon were found on the site. The short spawning period may be due to the low numbers of sturgeon found at the site. Egg trays deployed to determine egg densities had a maximum of 100-200 eggs/m^2. Egg densities in the substrate were much lower; however, this may be the result of burial and increased predation. Lake sturgeon and redhorse suckers seemed to "shy away" from feeding over the egg trays.



"lake sturgeon"

Ultrasonic transmitters were successful in tracking movements and distribution of lake sturgeon below the power dam. The New York Power Authority with SUNY Environmental Science and Forestry collected 107 lake sturgeon, with 27 recaptures in 58 net nights. Fourteen lake sturgeon were radiotagged. Some lake sturgeon are highly migratory (approximately 30 km), while others are sedentary. One confirmed gravid female and one suspect gravid female were simultaneously

located at an area that exhibits spawning habitat characteristics. Nonviable lake sturgeon egg clusters and one fry were found at this suspect site; however, it is difficult to determine if they were deposited or the result of drift. One of the females was later found spent.

Future activities in the St. Lawrence River include placing and evaluating up to 6 more artificial spawning sites; one upstream of the power dam and up to 5 below. Activities above the dam will be performed by NBS, while below the dam, the Mohawk Tribe will conduct studies, with assistance from NBS. Tracking of lake sturgeon below the power dam is also expected to continue year-round.

Lake sturgeon were stocked again this year. The Oswegatchie River system received 5,000 juveniles. Oneida Lake received approximately 40,000 fry early this summer, in addition to 5,000 juveniles (8-9") this fall. The Oneida Lake fish will be monitored through current, ongoing assessments by Cornell University and it is expected the spring bullhead sportfishery will show some catches. Also, 3,000 juveniles were put in Cayuga Lake. All fish were from a St. Lawrence River egg source. All stockings are efforts toward the NY State Recovery Plan for Lake Sturgeon.

Contact: Lower Great Lakes Fishery Resources Office, University Center, 405 N. French Rd., Amherst, NY 14228, (716) 691-5456

Colorado River Endangered Fish Stocked

U.S. Fish and Wildlife Service (FWS) biologists recently released several hundred 5-8 inch endangered razorback suckers into the Green River at Dinosaur National Monument (Utah), and into the Gunnison River upstream of Delta, CO.

This stocking is part of an effort to prevent extinction of one of the west's most endangered fish species. The upper Colorado River basin, including the Green and Gunnison rivers, is known to support only about 500 wild razorback suckers. These fish once were common throughout the basin.

Green River razorbacks were spawned in spring 1993 and 1995 from 10 adult fish taken from the River and held captive at the Ouray Endangered Fish Hatchery near Vernal, UT. Gunnison River fish were spawned in spring 1994 from 7 adults taken from the Colorado River and upper reaches of Lake Powell. These were raised at the Colorado Division of Wildlife's Bellevue Research Hatchery near Fort Collins.

Stocked fish were large enough to avoid predation by most non-native fish thought to feed on small endangered fish. Special tags (read by electronic scanners) were implanted in all fish released, additionally radio transmitters were placed in 10 of the Green River fish. These devices will enable FWS and Utah Division of Wildlife Resources biologists to monitor movement and survival of the young fish.

More than 6,000 razorbacks were stocked in the Green River in the late 1980s and a handful were released in the Gunnison River last year. However, few of these fish are known to have survived, leading scientists to conclude that stocking alone will not lead to recovery. Stocking may only serve as a stopgap measure to prevent further decline.

Biologists believe that many of the razorbacks remaining in the Green River were alive before Flaming Gorge Dam was completed in 1962. To learn if these Green River fish were reproducing, biologists placed "light traps" in river backwaters during the spawning season. At night, newly hatched larval fish swim toward the light and through a small funnel-like slit, allowing them in, but preventing their escape. Using this technique, researchers found about 200 larval razorback suckers in the Green River in 1994. Now biologists are trying to learn why so few young fish survive to adulthood.

One major threat may be the lack of suitable habitat during their first few months of life. Just before the height of spring runoff, adult razorbacks deposit their eggs in gravel beds on the river bottom. Historically, young razorbacks would start moving downstream just as the river was peaking and spilling over its banks onto low-lying areas. The small fish would be washed onto the warmer flood plains, which produce hundreds of times more plankton on which larval razorbacks feed. The same thing is thought to have occurred with floodplain spawning and rearing species around the world.

Biologists theorize that in the past, these areas served as critical "nursery" habitats for young suckers, protecting them from predators and allowing them to grow very quickly. Now, with flood control provided by Flaming Gorge Dam and various dikes, significant flooding occurs much less frequently. Larval suckers are flushed down the main river channel and probably are eaten by larger fish.

To address the need for nursery habitat, the multi-agency Recovery Program for Endangered Fish of the Upper Colorado River Basin has initiated a flood plain habitat restoration program. Participants are working to better understand the needs of larval razorbacks and determine where restoration efforts would be most effective. They are also experimenting with ways to provide quality razorback sucker nursery habitat, without producing greater numbers of non-native

species that prey upon them.

"We are not trying to re-create the entire flood plain as it was 200 years ago," said Pat Nelson, FWS biologist. "The goal is to restore natural flood plain functions that are necessary for recovery of endangered fishes." The biologists realize the need to do this without increasing flood damage, mosquito problems, spread of noxious weeds or infringement on private property.

Area residents may want to take part in the habitat restoration program because of benefits beyond aiding endangered fish. Flood plain habitats serve as seasonal water storage areas, reducing the threat of flooding downstream during the spring and then releasing water during drier summer months. Wetlands also help replenish ground water supplies away from the river and trap and detoxify many natural and man-made pollutants. In addition, these areas provide important nesting and feeding habitat for ducks, geese, songbirds and other wildlife.

Of 14 fish species native to the upper Colorado River basin, four – the razorback sucker, bonytail chub, humpback chub, and Colorado squawfish – are now on the federal endangered species list. In the early 1900s, these fish were abundant and often were used for food by settlers.

Contact: Ms. Connie Young, U.S. Fish and Wildlife Service, P.O. Box 25486, Denver Federal Center, Denver, CO 80225, (303) 236-2985, ext. 227

Barging, Drawdowns, Logging and Salmon

A recent National Research Council (NRC) report supports efforts to continue barging and trucking young salmon down the lower Snake and Columbia Rivers to improve their chances of survival.

The report joins previous studies that cautioned against reservoir drawdowns until they are proven effective for salmon survival.

The "prestigious" NRC said drawdowns would be too expensive and potentially counterproductive, and urged a sharp reduction in the use of hatcheries to "prop up numbers" of salmon. The report also called for landowners to cooperate on salmon habitat restoration efforts.

The results may "harden" the reluctance of federal agencies to schedule drawdowns of several Snake and Columbia River dams, and further weaken "waning political sentiment" in favor of that action. The report "buttresses" the claim of industries in the region, led by aluminum companies, barge shippers and irrigators, that drawdowns would be too costly. The study "undermines arguments" by environmental interests, some

states and Indian tribes that transporting salmon around dams has failed to stem their decline and that reservoirs must be lowered to imitate natural conditions.

Also, according to a new study by the Newport, OR based Coast Range Association (CRA), a conservation group, logging methods in the forests of Oregon's coastal mountains – most of which are privately owned – must change if dwindling salmon runs are to survive.

CRA studied land ownership patterns in the coastal mountains of 11 Oregon counties and found that 57% of forest land in the region is privately owned, "a notable departure" from ownership patterns in the state, where 63% of all forest land is publicly owned. Federal and state forest policy has given "heavy weight to federal protection of endangered species," but on private lands, "government rules have less sway."

To protect salmon, CRA recommends that trees be harvested at 100-year intervals rather than on 40- to 60-year rotations. "Less frequent harvests would reduce damage from logging but produce similar lumber yields because the trees would be bigger." Timber managers believe logging is taking too much blame for the decline of salmon stocks. They note that ocean conditions, overfishing, dams and other factors have hurt salmon runs.

Source: Greenwire Vol. 5, No. 134 and 135

School Curricula Biased?

Thirty states require or strongly encourage environmental lessons as part of public school curricula, but experts warn that environmental education is "getting caught up in a potentially chilling controversy" over values, "reminiscent of the divisive disputes over evolution and sex education." Arizona has passed laws banning environmental advocacy in the classroom and "slashed" funding for programs. Florida, North Carolina and Wisconsin are considering similar measures.

In many schools, environmental education is "linked closely to scientific inquiry," but curricula also may include teacher-sponsored letter campaigns to save dolphins or stop logging. Conservatives assert that teachers and textbooks present business and technology in a bad light.

Meanwhile, consumer and environmental groups say big business has been effective in spreading its own propaganda

through environmental curricula. Officials of the North American Association of Environmental Educators concede that mandates for environmental education often do not include guidelines or a budget, so teachers wind up relying on free material from environmental groups and corporations that frequently promote causes and products.

Source: Greenwire Vol. 5, No. 137

Grass-Roots Environmental Course

The University of Montana plans to offer a 25-student course in grass-roots environmentalism next year featuring guest lectures from representatives of Greenpeace, the Sierra Club, and the Center for New Democracy. Boston-based Green Corps is providing about $65,000 for the course, which will receive no public money.

The undergraduate course, a joint project of activist C.B. Pearson and the University of Montana's environmental studies program, will help students learn "the real politics" of civic involvement, says Pearson. But the course has drawn the ire of logging contractor Bruce Vincent, who is concerned that the university is "running a boot camp for environmental attack troops." Other University of Montana programs, such as a lecture series funded by a $500,000 endowment from Plum Creek Timber Company, are underwritten by the timber industry.

Source: Greenwire Vol. 5, No. 137

New Publications

Boxrucker, J. 1995. Sampling shad in southern impoundments. Oklahoma Dept. of Wildlife Conservation, 500 E. Constellation, Norman, OK 73072, 22pp.

Campbell, K.L. (ed.) 1995. Versatility of wetlands in the agricultural landscape. ISBN #0-929355-69-5. American Water Resources Association, 950 Herndon Parkway, Suite 300, Herndon, VA 22070-5528, (703) 904-1225. 74 pp.

Anonymous. 1995. Proceedings of the workshop for the conservation and management of lake strugeon in the Great Lakes. Lower Great Lakes Fishery Resource Office, University Center, 405 N. French Rd., Amherst, NY 14228, (716) 691-5456.

Meetings of Interest

February 23-26: AFS Southern Division Midyear Meeting, Adam's Mark Riverview Plaza, Mobile, AL. Contact: Patricia Mazik, Chair, Program Committee SFCL, Rt. 3, Box 86, Marion, AL 36756 (334/683-6175).

February 26-27: Urban Conservation 2000: A Virtual Reality, Seattle, WA. Contact: Nancy Hersellus, Ext. 18, or Timothy Kautza, Ext. 12, 1-800-THE-SOIL.

March 11-15: Hec-1, Flood Plain Hydrology, New Brunswick, NJ. Contact: Suzanne Soules, Cook College Office of Continuing Professional Education, P.O. Box 231, New Brunswick, NJ 08903-0231. (908) 932-9271.

March 4-6: 4th Symposium on Biogeochemistry of Wetlands, The Monteleone, New Orleans, LA. Contact: Karen Cros, Wetland Biogeochemistry Institute, Louisiana State University, Baton Rouge, LA 70803, (504) 388-8810 or FAX (504) 388-6423.

March 5-7: Sixth International Zebra Mussel and Other Aquatic Nuisance Species Conference, Dearborn, MI, hosted by Michigan Sea Grant, (800) 868-8776.

March 22-27: 61st North American Wildlife and Natural Resources Conference, Adams Mark Hotel, Tulsa, OK. Contact: Dick McCabe, Wildlife Management Institute, 1101 14th St., NW, Suite 801, Wash., D.C. 20005, (202) 371-1801 or FAX (202) 408-5059.

May 16-17: 23rd Annual Conference on Ecosystem Restoration and Creation, Tampa, FL. Contact: Fred Webb, Dean of Environmental Programs, Hillsborough Community College, Plant City Campus, 1206 N. Park Road, Plant City, FL 33566, (813) 757-2104.

June 10-14: 20th Annual National Conference, Association of State Floodplain Managers, San Diego, CA. Contact: Diane Alicia Watson, ASFPM Executive Office, 4233 W. Beltline Hwy., Madison, WI 53711, (608) 274-0123, FAX (608) 249-4484.

June 11-14: Symposium on Social, Economic and Management Aspects of Recreational Fisheries, Dublin, Ireland. Contact: Dr Phil Hickley, National Rivers Authority, 550 Streetsbrook Road, Solibull B91 1QT, United Kingdom, Tel: 0121 711 5813 or FAX 0121 711 5824.

Agriculture

S. 854 (Lugar, R/IN) forms the basis of the conservation title of the 1995 Farm bill, including recommendations for the **Conservation Reserve Program, Wetlands Reserve Program, Conservation Incentive and Cost Share programs.** The **Farm Bill** would no longer allow permanent easements under the **Wetlands Reserve Program**, favoring shorter term easements instead. The **Conservation Reserve Program** would be capped at the current level of 36.4 million acres. The bill would combine all other conservation programs into a new program, the **Environmental Quality Incentives Program**, focused on problems of livestock waste management. Approved by the Agriculture Committee on September 28.

S. 935 (Sarbanes, D/MD) amends the Food Security Act of 1985 to establish a program to promote development of riparian forest buffers in conservation priority areas.

H.R. 67 (Bereuter, R/NE) extends the **Conservation Reserve Program** for 10 years and the **Wetlands Reserve Program** for 5 years.

H.R. 2284 (Pombo, R-Calif.) provides incentives for the owners and operators of agricultural land to provide habitat for protected species.

Fish & Wildlife

S. 191 (Hutchison, R/TX) and H.R. 490 (Smith, R/TX) amends the **Endangered Species Act** imposing a moratorium on new listings and critical habitat designations.

S. 455 (Kempthorne, R/ID) clarifies consultation procedures under the **Endangered Species Act** on management of federal lands.

S. 503 (Hutchison, R/TX) freezes **Endangered Species Act** listings and critical habitat designations.

S. 851 (Johnston, D/LA) amends the **Clean Water Act** reforming the wetlands regulatory program. Hearings held July 19 and Aug. 2.

S.1152 Conrad Burns (R/MT) amends the **Endangered Species Act** with common sense amendments to strengthen the act; enhance wildlife conservation and management; augment funding; and protect fishing, hunting, and trapping.

S. 1364 Kempthorne (R/ID) reauthorizes and amends the Endangered Species Act and for other purposes.

S. 1365 Kempthorne (R/ID) provides federal tax incentives to owners of environmetally sensitive lands to enter into conservation easements for the protection of endangered species habitat, and for other purposes.

S. 1366 Kempthorne (R/ID) amends the IRS Code of 1986 to allow for deduction from the gross estate of a decedent an amount equal to the value of real property subject to an endangered species conservation agreement.

H.R. 1714 Dooley (D/CA) amends the **Endangered Species Act** to require expeditious review of species being considered for listing under the act or currently listed under the act.

H.R. 2160 (James Saxton (R/NJ) entitled "Cooperative Fisheries Management Act of 1995." Reauthorizes the Interjurisdictional Fisheries Act.

H.R. 2217 Pete Geren (D/TX) entitled the "Common Sense Amendments for An Endangered Species Act."

Senate Environment Committee on August 3 held a hearing on legislation reauthorizing the **Endangered Species Act.**

H.R. 2275 (Young, R/AK and Pombo, R/CA) reauthorizes and amends the **Endangered Species Act.** Marked up on October 12.

H.R. 2284 (Pombo, R/CA) provides incentives for the owners and operators of agricultural land to provide habitat for protected species.

Forests

S. 647 (Lott, R/MS) amends the **Forest and Rangeland Renewable Resources Planning Act of 1974** to require that major changes to forest management plans be phased in over time to minimize impact to communities.

H.R 1089 (Cremeans, R/OH) ensures that acquisition of lands for inclusion in the National Forest System does not result in a loss of tax revenue to the affected county.

H.R. 1439 (Metcalf, R/WA) amends the **National Forest Management Act of 1976** to require that the timber sale program conducted by the Forest Service on forest system lands be financed only by receipts from the sale of timber under the program.

Government Affairs

S. 169 (Grassley, R/IA) curbs the practice of imposing unfunded federal mandates on states and local governments.

S. 1001 (Glenn, D/OH) reforms the regulatory process, providing for cost-benefit analysis risk assessment of major rules, and calls for a review of existing rules.

S. 1346, Abraham (R/MI) requires periodic review of federal regulations.

H.R. 2500, Michael Oxley (R/OH) amends the Comprehensive Environmental Response, Compensation, and Liability Act of 1980.

Grazing

S. 193 (Campbell, D/CO) establishes a forage fee formula on Agriculture and Interior department lands.

S. 629 (Thomas, R/WY) prohibits requiring environmental assessments for grazing permit renewal under the **National Environmental Policy Act.**

S. 636 (Daschle, D/SD) requires the Agriculture Secretary to issue new term grazing permits on National Forest System lands to replace expired or expiring grazing permits.

S. 852 (Domenici, R/NM) and H.R. 1713 (Cooley, R/OR) provides for the uniform management of livestock grazing on federal lands. Senate Energy Committee approved on July 19. **H.R. 1713 (the Livestock Grazing Act)** was approved by the House Resources Committee full committee action on September 12.

H.R. 1375 (Cooley, R/OR) provides for extension of expiring term grazing permits for lands within the National Forest System.

Mining

S. 504 (Bumpers, D/AR) amends the Mining Law of 1872, imposing a royalty on mineral operations and reforming the process for mineral development.

S. 506 (Craig, R/ID) amends the Mining Law of 1872 imposing a royalty on mineral operations and reforming the process for mineral development.

S. 639 (Campbell, R/CO) amends and reforms the Mining Law of 1872 providing for the disposition of locatable minerals on federal lands.

Parks

S. 964 (Johnston, D/LA) amends the Land and Water Conservation Fund Act of 1965 giving the Interior Secretary authority to collect entrance fees at National Parks for direct use on priority park maintenance and repair projects.

H.R. 260 (Hefley, R/CO) provides for a plan and management review of the National Park System, and reforms the process for considering additions to the system.

H.R. 1260 (Hefley, R/CO) establishes guidelines for determination of National Heritage Areas.

H.R. 1301 (Vento, D/MN) establishes the National Heritage Area Partnership Program.

H.R. 1449 (Roberts, R/KA) provides for establishment of the Tallgrass Prairie National Preserve in Kansas.

H.R. 1846 (Richardson, D/NM) establishes the Yellowstone Headwaters National Recreation Area within Montana's Gallatin and Custer National Forests

Public Lands

S. 93 (Hatfield, R/OR) amends the Federal Land Policy and Management Act providing for ecosystem management on public lands. Referred January 4 to Committee on Energy and Natural Resources.

S. 449 (Simon, D/IL) establishes the Midewin National Tallgrass Prairie in Illinois.

S. 518 (Thomas, R/WY) limits federal acquisitions in states where 25% or more of the land is owned by the United States.

S. 1031 (Thomas, R/WY) and H.R. 2032 (Hansen, R/UT) transfers lands administered by the Bureau of Land Management to the states. House Resources Committee held a hearing August 1 on H.R. 2032

S. 1151 (Burns, R/MT) establishes a National Land and Resources Management Commission to review and make recommendations for reforming the management of public lands

H.R. 2107 (Hansen, R/UT) amends the Land and Water Conservation Fund Act of 1965 to improve the quality of visitor services provided by federal land management agencies through an incentive based recreation fee program

Recreation

H.R. 104 (Emerson, R/MO) rescinds fees required for use of public recreation areas at lakes and reservoirs under jurisdiction of the Army Corps of Engineers.

Refuges

H.R. 91 (Sensenbrenner, R/WI) prohibits land or water acquisition for the National Wildlife Refuge System if wildlife refuge revenue sharing payments have not been made for the preceding year.

S. 1013 (Conrad, D/ND) authorizes the Interior Secretary to acquire land for the purpose of exchange for privately held land for use as wildlife and wetland protection areas.

H.R. 1112 (Brewster, R/OK) and S. 976 (Nickles, R/OK) transfers the Tishomingo National Wildlife Refuge to the state of Oklahoma.

H.R. 1875 (Young, R/Ak) improves management and establishes purposes of the National Wildlife Refuge System.

Rivers

H.R. 1260 (Johnson, D/SD) ensures equity in and increased recreation and economic benefits from the Missouri River system.

H.R. 1331 (Furse, R/OR) creates a voluntary non-regulatory technical assistance and grants program within the Natural Resource Conservation Service's existing Small Watershed Program.

Takings

S. 135 (Hatch, R/UT) establishes a uniform federal process for protecting private property rights.

S. 145 (Gramm, R/TX) provides for protection of private property rights.

S. 605 establishes a uniform system for protecting property rights and compensating landowners adversely affected by regulations.

H.R. 9 (Archer, R/TX) creates jobs, enhances wages, strengthens private property rights and reduces the power of the federal government.

H.R. 971 (Wyden, D/OR) ensures that homeowners have access to information and opportunities to comment on actions that may decrease home values, and establishes a compensation program for development that produces pollution or otherwise impacts home values.

Water and Wetlands

S. 49 (Stevens, R/AK) amends the **Clean Water Act** providing for exemptions to wetlands regulations and protection of property rights in Alaska.

S. 626 (Hatfield, R/OR) amends the Watershed Protection and Flood Prevention Act establishing a technical assistance and grant program for waterways restoration.

S. 639 (Warner, R/VA) authorizes civil works programs for the Army Corps of Engineers which preserves the navigation of channels and harbors and provides for flood control and storm damage reduction.

H.R. 198 (Smith, R/MI) amends the Food Security Act of 1985 permitting conversion of wetlands smaller than one acre in size.

H.R. 226 (Dingell, D/MI) amends the Safe Drinking Water Act assuring the safety of public water systems.

H.R. 961 (Shuster, R/PA) reforms and reauthorizes the **Clean Water Act**. Passed the House May 16, 1995.

H.R. 1132 (Oberatar, D/MN) amends the **Clean Water Act** providing for improved non-point source pollution control.

H.R. 1262 (Pallone, D/NJ) amends the **Clean Water Act** improving enforcement and compliance programs.

H.R. 1268 (English, R/PA) establishes a comprehensive program for conserving and managing wetlands.

H.R. 1438 (Lowey, D/NY) amends the **Clean Water Act** to provide funding to the states for estuary conservation.

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Mississippi Interstate Cooperative Resource Association
P.O. Box 774
Bettendorf, IA 52722-0774